



U.S. Department
of Transportation
**Federal Aviation
Administration**



SDR

Summary

Service Difficulty Reporting

March 1, 1998 - March 7, 1998

GENERAL AVIATION, ZAC-327

You can improve Air Safety by reporting the problem when you see it!

SECTION

- I Significant Occurrence Report
- II Domestic Service Difficulty Report
- III International Service Difficulty Report
- IV SDR Totals by District Office
- V Index By Aircraft Make and Model
- VI Joint Aircraft System/Component Code Table

ISSUE: 98-10



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SDR SUMMARY

General Aviation, ZAC-327



This summary includes domestic (United States) Service Difficulty Reports (SDRs) entered into the data base for aircraft weighing 12,500 lbs. and below. It also includes reports on aeronautical products (engines, propellers, and components), and all helicopters. A separate section for International SDRs for aircraft weighing 12,500 lbs. and under has also been included. Under a data exchange agreement, International SDRs are submitted to the FAA by the Civil Aviation Authority of other countries (currently, Canada - CAN, and Australia - AUS). All reports are sorted by aircraft make, model group (basic model), and Joint Aircraft System/Component (JASC) code. Within each aircraft model group, the specific model shown may vary, but similar types of reports will be grouped together and listed in ascending order by their JASC code. Each field contains all information submitted to the FAA. Some fields are not included in order to make the summary easier to read. Additional information may be obtained by referring to the "operator control number." Send your request to the Aviation Data Systems Branch, AFS-620 at the address or phone below.

The Regulatory Support Division (AFS-600) has established a "HomePage" on the Internet through which the same information is available. There is a large quantity of other information available through the AFS-600 HomePage such as the most current SDR system codes (i.e., Joint Aircraft System/Component Codes). The SDR Question and Answer Section of the Summary will also be transferred to the AFS-600 HomePage to simplify the process of preparing the SDR Summaries in the PDF format each week. There are "hot buttons" to take you to other locations and sites where FAA Flight Standards Service Information is available. The AFS-600 "HomePage" address is:

<http://www.mmac.jccbi.gov/afs/afs600>

"The Service Difficulty Reports in this publication are derived from unverified information submitted by the aviation community without FAA verification for accuracy. The number of SDRs submitted is not an indication of the mechanical reliability or fitness of an airline or individual operator, and the information should not be used as such."

Comments are welcomed and may be directed to:

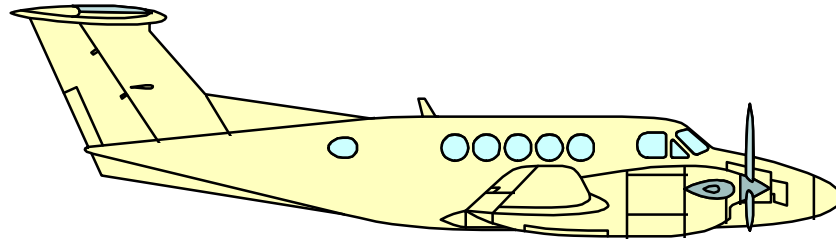
*Federal Aviation Administration
Aviation Data Systems Branch, AFS-620
P.O. Box 25082
Oklahoma City, OK 73125-5029
Phone: (405) 954-4171, Fax: (405) 954-4748*

Your continued participation is essential and is an integral part of ensuring aviation safety. Thank you for supporting the Service Difficulty Program! If you have any questions regarding this special notice you can contact John Jackson at (405) 954-6486, or Jim Gillespie at (405) 954-1141, or Blake McDonald at (405) 954-0307 in the Aviation Systems Branch (AFS-620). Their E-mail addresses are:

john_e_jackson@mmacmail.jccbi.gov

james_gillespie@mmacmail.jccbi.gov

blake_mcdonald@mmacmail.jccbi.gov



SIGNIFICANT OCCURRENCE REPORT





U.S. Department
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**Federal Aviation
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THE SIGNIFICANT OCCURRENCE REPORT



The Significant Occurrence Report is a compilation all of the star bordered reports that appear in the General Aviation Service Difficulty Report (SDR) Summary, ZAC-327. The Significant Occurrence Report is used to highlight industry problem areas to field inspectors and the aviation public.

Limited analysis is performed by the Aviation Data Systems Branch, AFS-620 during the preparation of the "Significant Occurrence Report", which is generated each week and is included in the front of the Air Carrier SDR Summary. Significant Reports are hand selected by AFS-620's inspectors based on the individual merit of each report. The criteria for selection includes, but is not limited to, items that indicate high failure rates; items related to accidents or incidents; or design or maintenance failures which may affect the safe operation of the aircraft.

In some cases, this limited analysis of SDR data leads to the preparation of information bulletins which are routed to the appropriate product certification office for further investigation of the problem. The end result may be the issuance of an airworthiness directive (AD) by the Aircraft Certification Service (AIR) if warranted.

The Significant Occurrence Report (section I) of the weekly SDR Summary is not intended to be a summary of all significant events and should not be used as such. We recommend that you review further the applicable sections of the SDR summary that may be of interest.

GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT

3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
5741 AW4R	8638V 16275	BBAVIA 8GCBC				BOLT AN413	WORN AFT WING SPAR	4184	2/24/98 98ZZZX919
*****	DURING WING REMOVAL, BOTH AFT SPAR TO FUSELAGE ATTACH BOLTS (AN4-13) WERE FOUND EXTREMELY WORN. THE HOLES IN THE FUSELAGE ATTACH POINTS WERE ALSO WORN OVERSIZE (APPROXIMATELY .3125 INCH). APPARENT CAUSE OF THIS DEFECT IS INSUFFICIENT BEARING AREA OF THE FUSELAGE ATTACH POINTS AND INSUFFICIENT CLAMPING ACTION BETWEEN THE AFT SPAR FITTING AND FUSELAGE ATTACH POINT ALLOWING RELATIVE MOVEMENT. THIS 180 HP 'SCOUT' HAS BEEN USED EXTENSIVELY AS A GLIDER TOW-PLANE.								
7120	613D D2870	BEECH C35BEECH				MOUNT BRACKET 35415377	CRACKED AFT ENG MOUNT		1/12/98 98ZZZX896
*****	DURING ANNUAL INSPECTION, NOTICED RT REAR ENGINE MOUNT BRACKET RIVETS WERE LOOSE. AFTER REMOVAL OF ENGINE, FOUND BOTH REAR MOUNTS WERE CRACKED AT FORWARD EDGE OF REAR SUPPORT MEMBER. TOTAL TIME OF AIRCRAFT WAS A CONTRIBUTING FACTOR, BUT EXTRA CARE SHOULD BE USED WHEN INSPECTING THIS AREA. POSSIBLE ROTATING OR REPLACING OF LORD MOUNTS WOULD HAVE HELPED THIS PROBLEM.								
2730 EHHR	6645K U209	BEECH C99				TORQUE TUBE 1156100153	CRACKED ELEVATOR		2/6/98 98ZZZX862
*****	AS PART OF A CONTINUOUS SURVEILLANCE PROGRAM, OPERATOR VISUALLY INSPECTED THE AREA AROUND THE TAPER PINS EACH 100-HOUR INSP. BEECH WROTE SB 2145 WHICH PERTAINS TO DISASSEMBLY AND INSPECTION OF THIS COMPONENT EACH 1,000 HOURS. AFTER THE FIRST 1,000-HOUR INSPECTION, OPERATOR VISUALLY INSPECTED THE SUPPORT EVERY 100 HOURS AND FOUND CRACKS AROUND THE TAPER PIN. TT: 1,400-1,700 HOURS. SUBMITTER STATED THIS IS A \$1,400 PART WHICH COULD BE MADE STRONGER IN SUCH A HIGH VIBRATION AREA. SYSTEMATICALLY BALANCING THE PROPELLERS HAS NOT ELIMINATED THIS PROBLEM.								
2810	5318E 17271836	CESSNA 172N				HOSE	DETERIORATED FUEL VENT	2556	2/11/98 98ZZZX885
*****	FUEL TANK VENT LINES ARE CONNECTED WITH 6 SHORT PIECES OF RUBBER HOSE IN THE CABIN OVERHEAD AT THE WING ROOTS. THE HOSES WERE ORIGINAL, ONE WITH A 3Q78 DATE. THIS IS THE THIRD AIRCRAFT WITH VENT HOSES AT LEAST 20 YEARS OLD. SUBMITTER RECOMMENDED 5-10 YEAR REPLACEMENT.								
5400 DJFR	2699D 340A0787	CESSNA 340A				WEB 0851601202	CORRODED NAC EXH TUNNEL		1/12/98 98ZZZX877
*****	DURING ANNUAL INSPECTION, FOUND LOWER AREA OF NACELLE WEB IN EXHAUST TUNNEL EXFOLIATED. ONLY ONE OF THE TUNNELS ON THIS AIRCRAFT WAS CORRODED, BUT SKIN CRACKS WERE FOUND IN AREA OF EXHAUST CLAMP ON ONE OTHER TUNNEL. ACTT: 3,998.1 HOURS.								
3500 HI5R	26CB 5250117	CESSNA 525			17627450	REGULATOR 17227001	BURNED OXYGEN BOTTLE	616	2/4/98 98ZZZX866
*****	DURING RE-INSTALLATION OF OXYGEN BOTTLE AFTER HYDROSTATIC TEST, MECHANIC NOTED SOUND LIKE OXYGEN LEAK. DURING ATTEMPT TO TIGHTEN FITTING, NOTED GREEN GLOW AT REGULATOR, WITH SPARKS. MECHANIC CLEARED AREA AND 2 EXPLOSIONS NOTED. FIRE BURNED HOLES IN AIRCRAFT NOSE SKIN BELOW OXYGEN REGULATOR, FIRE EXTINGUISHER USED, FIRE PUT OUT. INSPECTION FOUND REGULATOR BURNED THROUGH ABOUT MID-WAY.								
7400 JRP2	957SD RN011	DOUG 600N				RELAY SOCKET VB81KA723	FAILED ENG IGNITION		2/19/98 98ZZZX907
*****	DURING GROUND TEST ENGINE RUN, ENG FLAMED OUT AFTER LESS THAN A MINUTE. FUEL GAUGES INDICATED APPROX 70 POUNDS OF FUEL. AFTER TANKS TOPPED OFF AND FUEL LINES PURGED, ATTEMPTED RESTART WITHOUT SUCCESS. FURTHER T/S LOCATED INOP IGNITER FUNCTION. THIS WAS T/S TO INTERMITTENT IGNITER RELAY SOCKET. VIBRATION ON WIRING HARNESS WOULD CAUSE RELAYS TO DE-ENERGIZE INTERMITTENTLY. SEVERAL RELAYS AFFECTED. CURRENT MD600 MM ARE TOO INADEQUATE TO IDENTIFY THE FUNCTION OF RELAYS. SUBMITTER SUSPECTS THAT 3 RELAYS ARE: FADEC START RELAY. FADEC IGNITION RELAY AND BATTERY HITEMP RELAY. SUSPECTED FADEC ECU MAY HAVE SHUT ENG DOWN DUE TO LOSS OF SIGNAL LINES FROM INTERMITTENT RELAYS. TSN: 12.6 HRS.								
2752 CWQR	361QS 5600361	GULSTM 560				ACTUATOR 99123441	BROKEN FLAP		2/10/98 98ZZZX881
*****	DURING PHASE 2 INSPECTION, FOUND HEAD OF BOLT SHEARED CLEAN. THIS IS ONE OF FOUR BOLTS HOLDING BARREL TO BASE OF THE FLAP ACTUATOR. BOLT HEAD WAS HELD CAPTIVE BY SAFETY WIRE IN CONJUNCTION WITH THREE REMAINING BOLTS. DID NOT APPEAR TO BE OVERTORQUED. POSSIBLE BAD BATCH OF BOLTS.								

***** DENOTES SIGNIFICANT OCCURRENCE

GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT (cont'd)

3/1/98 To 3/7/98 ISSUE: 98-10 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
5220	335QS	GULSTM				PANEL ASSY	MALFUNCTIONED	2416	2/16/98
CWQR	5600335	560				48191301	EMERG EXIT		98ZZZX882
*****	DURING INSPECTION, ATTEMPTED TO REMOVE THE EMERGENCY EXIT DOOR. FOUND NUMEROUS PROBLEMS. EXTERIOR HANDLE ROTATION DIFFICULT. HATCH HAD TO BE HIT HARD AT TOP TO MAKE IT RELEASE FROM OPENING. DETERMINED RUBBER SEAL THAT IS GLUED TO DOOR WITH 1300L, WAS ADHERED TO 890 THAT IS UTILIZED TO CREATE A BETTER PRESSURIZATION SEAL. CAUSED SITUATION WHEREAS DEALING WITH THE SEAL BECAME A PART OF THE OPERATION TO REMOVE THE EMERG EXIT. ALSO, INTERIOR TRIM PIECE THAT IS VELCROED INTO PLACE WAS TRAPPED IN PLACE WITH SEAT IN OTBD POSITION. THIS TRIM PIECE BLOCKED 6-8 INCHES OF THE LOWER PORTION OF THE EXIT OPENING.								
7810	800CP	MAULE				EXHAUST SYSTEM	CRACKED		1/1/98
	14058C	MXT7180				5327F32	ENG MUFFLER		98ZZZX891
*****	OVER A PERIOD OF THREE YEARS, NINE OCCURRENCES OF EXHAUST/MUFFLER PROBLEMS. THESE INCLUDE EXCESSIVE VIBRATION RESULTING IN CRACKING OF WELDS, AT CONNECTION OF EXHAUST PIPES AND MUFFLER. IN ADDITION, CRACKING OF WELD SPOTS AT VARIOUS LOCATIONS TO INCLUDE ROD CONNECTING THE TWO TAILPIPES. ON ONE OCCASION, EXHAUST PIPE HAD PULLED AWAY FROM MANIFOLD CREATING A SEVERE FIRE HAZARD.								
8520	TGWOW	PIPER	LYC			CRANKSHAFT	FAILED	882	1/24/98
MSTA	61P068379633	PA60601P	IO540S1A5			LW10842	NR 2 JOURNAL	8	98ZZZX909
*****	PILOT (OWNER) DEPARTING FROM AIRPORT AND CLIMBING THROUGH 4,000 FEET NOTED LOUD BANG AND SEVERE VIBRATION FROM LT ENGINE. ENGINE SHUT DOWN AND SECURED AND SAFE LANDING MADE. DISASSEMBLY OF ENGINE REVEALED CRANKSHAFT BROKEN. BREAK OCCURRED AT THE REAR CHEEK OF THE NR 2 ROD JOURNAL IN THE RADII. CRANKCASE, RODS, CAMSHAFT, AND CYLINDERS ALL NOW N.G.								
3340	9290P	PIPER				WIRE HARNESS	ARCING	57	2/17/98
	4496019	PA44180					TAIL STROBE		98ZZZX918
*****	SEVERAL LOUD POPS WERE HEARD IN THE TAILCONE OF THE AIRCRAFT WHEN THE STROBE LIGHTS WERE TURNED ON. INSPECTION OF STROBE POWER SUPPLY WIRING REVEALED BARE WIRES WHERE THE EXTERIOR INSULATION HAD BEEN STRIPPED. THE GRAY INSULATION WAS STRIPPED BY A TOOL THAT CUT TOO DEEPLY AND LEFT THE UNDERLYING RED, WHITE, AND BLACK WIRES EXPOSED. THE RED WIRE ARCED TO THE SURROUNDING AIRCRAFT STRUCTURE DAMAGING THE INSULATION FURTHER.								
7810	61PF	PIPER				MUFFLER	FAILED	1860	2/9/98
I57S	447995187	PA44180				8629907	LT ENG AFT		98ZZZX908
*****	ACFT EXPERIENCED A FIRE IN THE LT ENG NAC JUST AFTER A RUN-UP. FIRE STARTED AFTER ACFT TURNED DOWNWIND AND BEGAN TAXIING. FIRE EXTINGUISHED. INSP REVEALED AFT MUFFLER HAD CRACKED AND SPLIT CIRCUMFERENTIALLY NEAR THE LT (OTBD INLET.) HOT EXHAUST GASSES IGNITED LOWER FIBERGLASS COWLING CAUSING FIRE/HEAT DAMAGE, IGNITION HARNESS, STARTER CABLE, FUEL PUMP, AND CHT PROBE. CLOSER INSP OF MUFFLER (PIPER P/N 86299-07) REVEALED METAL CORRODED AND 'PAPER THIN' ADJ TO THE CRACK. SMALL PORTIONS OF METAL NEXT TO THE CRACK WERE BENT OUTWARD SUGGESTING ENG "AFTERFIRE" MAY HAVE CONTRIBUTED TO MUFFLER FAILURE. MUFFLER FAILURE POINT WELDS INDICATING MUFFLER PREVIOUSLY CRACKED.								

(End of GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT)

FEDERAL AVIATION ADMINISTRATION
SIGNIFICANT OCCURRENCE REPORT INDEX

Showing Specific Part Numbers and Aircraft Model by Year

FOR THE PERIOD OF: 3/1/98 To 3/7/98

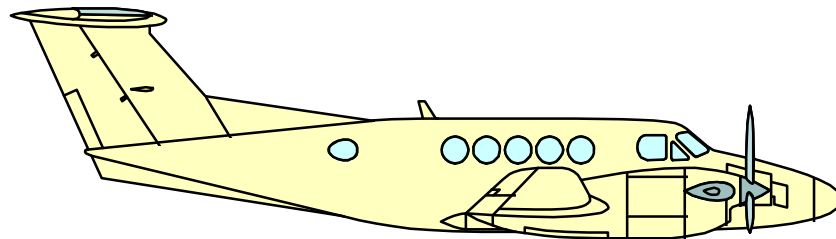
<u>PART NUMBER</u>			<u>YEAR</u>											
<u>PART NAME</u>	<u>ACFT MODEL</u>	<u>TOTAL</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>
0851601202														
WEB	340A	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 0851601202 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
1156100153														
TORQUE TUBE	C99	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 1156100153 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
17227001														
REGULATOR	525	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 17227001 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
230033195														
TURBINE	unknown	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 230033195 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
3000500024														
TORQ SIGNAL COND	DHC8301	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 3000500024 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
35415377														
MOUNT	D35	1	-	-	-	-	-	1	-	-	-	-	-	-
MOUNT BRACKET	C35BEECH	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 35415377 -----		2	-	-	-	-	-	1	-	-	-	-	-	1
48191301														
PANEL ASSY	560	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 48191301 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
5327F32														
EXHAUST SYSTEM	MXT7180	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 5327F32 -----		1	-	-	-	-	-	-	-	-	-	-	-	1
8629907														
MUFFLER	PA44180	1	-	-	-	-	-	-	-	-	-	-	-	1

FAA SIGNIFICANT OCCURRENCE REPORT INDEX 3/1/98 To 3/7/98 (cont'd)

<u>PART NUMBER</u>		<u>YEAR</u>												
<u>PART NAME</u>	<u>ACFT MODEL</u>	<u>TOTAL</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>
TOTAL of # 8629907 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
99123441														
ACTUATOR	560	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 99123441 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
AN413														
BOLT	8GCBC	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # AN413 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
LW10842														
CRANKSHAFT	PA60601P	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # LW10842 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
MA45														
CARBURETOR	172N	1	-	-	-	-	-	1	-	-	-	-	-	-
	182P	1	-	-	-	-	-	-	-	-	-	-	1	-
	182Q	1	-	-	-	-	-	-	-	-	-	-	1	-
	182R	1	-	-	-	-	-	-	1	-	-	-	-	-
	unknown	2	-	-	-	-	-	-	-	-	-	1	-	1
TOTAL of # MA45 - - - - -		6	-	-	-	-	-	1	1	-	-	1	2	1
RS2B														
RESISTOR	650	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # RS2B - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
VB81KA723														
RELAY SOCKET	600N	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # VB81KA723 - - - - -		1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL for ALL (20) PART NUMBERS: - - - -		21	-	-	-	-	-	2	1	-	-	1	2	15
END OF SIGNIFICANT OCCURRENCE REPORT INDEX														



DOMESTIC SERVICE DIFFICULTY REPORT



DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT

3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
5741	8638V	BBAVIA				BOLT	WORN	4184	2/24/98
AW4R	16275	8GCBC				AN413	AFT WING SPAR		98ZZZX919
*****	DURING WING REMOVAL, BOTH AFT SPAR TO FUSELAGE ATTACH BOLTS (AN4-13) WERE FOUND EXTREMELY WORN. THE HOLES IN THE FUSELAGE ATTACH POINTS WERE ALSO WORN OVERSIZE (APPROXIMATELY .3125 INCH). APPARENT CAUSE OF THIS DEFECT IS INSUFFICIENT BEARING AREA OF THE FUSELAGE ATTACH POINTS AND INSUFFICIENT CLAMPING ACTION BETWEEN THE AFT SPAR FITTING AND FUSELAGE ATTACH POINT ALLOWING RELATIVE MOVEMENT. THIS 180 HP 'SCOUT' HAS BEEN USED EXTENSIVELY AS A GLIDER TOW-PLANE.								
7120	613D	BEECH				MOUNT BRACKET	CRACKED		1/12/98
	D2870	C35BEECH				35415377	AFT ENG MOUNT		98ZZZX896
*****	DURING ANNUAL INSPECTION, NOTICED RT REAR ENGINE MOUNT BRACKET RIVETS WERE LOOSE. AFTER REMOVAL OF ENGINE, FOUND BOTH REAR MOUNTS WERE CRACKED AT FORWARD EDGE OF REAR SUPPORT MEMBER. TOTAL TIME OF AIRCRAFT WAS A CONTRIBUTING FACTOR, BUT EXTRA CARE SHOULD BE USED WHEN INSPECTING THIS AREA. POSSIBLE ROTATING OR REPLACING OF LORD MOUNTS WOULD HAVE HELPED THIS PROBLEM.								
2430	901AJ	BEECH				CABLE	SPLIT		2/1/98
GMNR	LJ829	C90				MS227598	STARTER/GEN		98ZZZX906
	ALL FOUR CABLE LEADS COMING FROM STARTER/GENERATOR ON LEFT SIDE, P/N'S P10C4, P10A4, K2D4, K2F4, SHIELDING IS SPLITTING ALL ALONG THE LENGTH OF WIRE EXPOSING BARE CABLE WHICH COULD RESULT IN ARCING. REF: CHAPTER 24 DC GENERATION OF WIRING MANUAL.								
2730	6645K	BEECH				TORQUE TUBE	CRACKED		2/6/98
EHHR	U209	C99				1156100153	ELEVATOR		98ZZZX862
*****	AS PART OF A CONTINUOUS SURVEILLANCE PROGRAM, OPERATOR VISUALLY INSPECTED THE AREA AROUND THE TAPER PINS EACH 100-HOUR INSP. BEECH WROTE SB 2145 WHICH PERTAINS TO DISASSEMBLY AND INSPECTION OF THIS COMPONENT EACH 1,000 HOURS. AFTER THE FIRST 1,000-HOUR INSPECTION, OPERATOR VISUALLY INSPECTED THE SUPPORT EVERY 100 HOURS AND FOUND CRACKS AROUND THE TAPER PIN. TT: 1,400-1,700 HOURS. SUBMITTER STATED THIS IS A \$1,400 PART WHICH COULD BE MADE STRONGER IN SUCH A HIGH VIBRATION AREA. SYSTEMATICALLY BALANCING THE PROPELLERS HAS NOT ELIMINATED THIS PROBLEM.								
2821	66381	CESSNA				FUEL STRAINER	MISMANUFACTURED		2/20/98
PF2R	15076005	150M				07560052	FUEL SYSTEM		98ZZZX932
	FUEL STRAINER HEAD ASSY PURCHASED FACTORY NEW 1997. UPON INSTALLATION, SCREEN COULD NOT BE INSTALLED. PICK-UP TUBE HAD BEEN STAKED AT AN ANGLE TO BODY. THIS DID NOT OFFER CLEARANCE BETWEEN DRAIN STEM AND PICK-UP TUBE. ASSY MACHINE OR PART NOT JIGGED PROPERLY DURING ASSY PROCESS.								
2810	5318E	CESSNA				HOSE	DETERIORATED	2556	2/11/98
	17271836	172N					FUEL VENT		98ZZZX885
*****	FUEL TANK VENT LINES ARE CONNECTED WITH 6 SHORT PIECES OF RUBBER HOSE IN THE CABIN OVERHEAD AT THE WING ROOTS. THE HOSES WERE ORIGINAL, ONE WITH A 3Q78 DATE. THIS IS THE THIRD AIRCRAFT WITH VENT HOSES AT LEAST 20 YEARS OLD. SUBMITTER RECOMMENDED 5-10 YEAR REPLACEMENT.								
2520	416ES	CESSNA				BELT	FRAYED	15	2/19/98
	18280078	182S					REAR LAP		98ZZZX884
	REAR LAP BELT REEL MOUNTING BRACKETS ANGLE THE REELS OUTBOARD OTHER THAN INBOARD WHICH CAUSES THE BOLT EDGE TO WEAR AGAINST THE REEL ENCLOSURE IN NORMAL USE. RIGHT AND LEFT BRACKETS APPEAR TO BE SWITCHED AT THE FACTORY. RECOMMEND ALIGNING REELS AND BELTS TO NORMAL PULL-OFF ANGLE TO AVOID BELT EDGE FRAYING.								
3211	6346A	CESSNA				GEAR SUPPORT	CRACKED	6027	11/15/97
	33146	182				05411212	MLG RT OTBD		98ZZZX888
	BOTH LANDING GEAR OUTBOARD SUPPORT CASTINGS FOUND CRACKED DURING ANNUAL INSPECTION. AIRCRAFT CARRIES 5 PERSONS (PER STC) DURING SKYDIVING OPERATIONS. NO RECORD OF PREVIOUS CHANGE OF THESE SUPPORTS. LANDING GEAR SHOULD BE CHECKED AFTER HARD LANDINGS.								
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	33146	182				05411211	MLG LT OTBD		98ZZZX887
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***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

3/1/98 To 3/7/98 ISSUE: 98-10 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3211	5553B	CESSNA				GEAR SUPPORT	CRACKED	6913	11/15/97
	33553	182				05411212	RT MLG OTBD		98ZZZX892
BOTH LANDING GEAR OUTBOARD SUPPORT CASTINGS FOUND CRACKED AT ANNUAL INSPECTION. AIRCRAFT CARRY 5 PERSONS (PER STC) DURING SKYDIVING OPERATIONS. NO RECORD OF PREVIOUS CHANGE OF THESE SUPPORTS. LANDING GEAR SHOULD BE INSPECTED AFTER HARD LANDINGS.									
3211	5553B	CESSNA				GEAR SUPPORT	CRACKED	6913	11/15/97
	33553	182				05411211	LT MLG OTBD		98ZZZX893
BOTH LANDING GEAR OUTBOARD SUPPORT CASTINGS FOUND CRACKED AT ANNUAL INSPECTION. AIRCRAFT CARRY 5 PERSONS (PER STC) DURING SKYDIVING OPERATIONS. NO RECORD OF PREVIOUS CHANGE OF THESE SUPPORTS. LANDING GEAR SHOULD BE INSPECTED AFTER HARD LANDINGS.									
8120	6687B	CESSNA				TURBOCHARGER	FAILED	114	2/12/98
GNXA	21062819	T210M				4066109005	ENG EXH SYS		98ZZZX889
ONE BENT BLADE AND ONE BLADE SEPARATED AT HALF ITS LENGTH. PART FAILED ON FINAL APPROACH TO LANDING. COMPRESSOR SHAFT AND TURBINE SHAFT BENT. NO KNOWN REASON FOR COMPRESSOR BLADE TO HAVE SEPARATED, OR FOR SHAFT TO HAVE BENT, NO EVIDENCE OF FOREIGN OBJECTS BEING INJECTED INTO TURBOCHARGER.									
5400	2699D	CESSNA				WEB	CORRODED		1/12/98
DJFR	340A0787	340A				0851601202	NAC EXH TUNNEL		98ZZZX877
***** DURING ANNUAL INSPECTION, FOUND LOWER AREA OF NACELLE WEB IN EXHAUST TUNNEL EXFOLIATED. ONLY ONE OF THE TUNNELS ON THIS AIRCRAFT WAS CORRODED, BUT SKIN CRACKS WERE FOUND IN AREA OF EXHAUST CLAMP ON ONE OTHER TUNNEL. ACTT: 3,998.1 HOURS.									
3500	26CB	CESSNA				REGULATOR	BURNED	616	2/4/98
HI5R	5250117	525			17627450	17227001	OXYGEN BOTTLE		98ZZZX866
***** DURING RE-INSTALLATION OF OXYGEN BOTTLE AFTER HYDROSTATIC TEST, MECHANIC NOTED SOUND LIKE OXYGEN LEAK. DURING ATTEMPT TO TIGHTEN FITTING, NOTED GREEN GLOW AT REGULATOR, WITH SPARKS. MECHANIC CLEARED AREA AND 2 EXPLOSIONS NOTED. FIRE BURNED HOLES IN AIRCRAFT NOSE SKIN BELOW OXYGEN REGULATOR, FIRE EXTINGUISHER USED, FIRE PUT OUT. INSPECTION FOUND REGULATOR BURNED THROUGH ABOUT MID-WAY.									
2752	361QS	GULSTM				ACTUATOR	BROKEN		2/10/98
CWQR	5600361	560				99123441	FLAP		98ZZZX881
***** DURING PHASE 2 INSPECTION, FOUND HEAD OF BOLT SHEARED CLEAN. THIS IS ONE OF FOUR BOLTS HOLDING BARREL TO BASE OF THE FLAP ACTUATOR. BOLT HEAD WAS HELD CAPTIVE BY SAFETY WIRE IN CONJUNCTION WITH THREE REMAINING BOLTS. DID NOT APPEAR TO BE OVERTORQUED. POSSIBLE BAD BATCH OF BOLTS.									
3010	341QS	GULSTM				LINE ASSY	CHAFE	83	2/10/98
CWQR	5600341	560				65141025	WING DEICE		98ZZZX879
TWO WING DEICE LINES AND CLAMPS LOCATED AT FUSELAGE AND WING LEADING EDGE, CHAFE FUSELAGE SKIN. SUBMITTER STATED SHRINK WRAP AND THERMOPROTECTION TAPE SHOULD BE EXTENDED FORWARD.									
3010	341QS	GULSTM				LINE ASSY	CHAFE	83	2/10/98
CWQR	5600341	560				65141023	WING DEICE		98ZZZX880
TWO WING DEICE LINES AND CLAMPS LOCATED AT FUSELAGE AND WING LEADING EDGE, CHAFE FUSELAGE SKIN. SUBMITTER STATED SHRINK WRAP AND THERMOPROTECTION TAPE SHOULD BE EXTENDED FORWARD.									
3610	31RC	GULSTM				COUPLING	CRACKED	3691	2/16/98
CWQR	5600023	560				S19213	BLEED AIR		98ZZZX878
DURING ENGINE CHANGE, FOUND BLEED AIR CLAMP CRACKED IN RADIUS OF BOLT GUIDE SLEEVE, ALMOST COMPLETELY AROUND THE CIRCUMFERENCE.									
5220	335QS	GULSTM				PANEL ASSY	MALFUNCTIONED	2416	2/16/98
CWQR	5600335	560				48191301	EMERG EXIT		98ZZZX882
***** DURING INSPECTION, ATTEMPTED TO REMOVE THE EMERGENCY EXIT DOOR. FOUND NUMEROUS PROBLEMS. EXTERIOR HANDLE ROTATION DIFFICULT. HATCH HAD TO BE HIT HARD AT TOP TO MAKE IT RELEASE FROM OPENING. DETERMINED RUBBER SEAL THAT IS GLUED TO DOOR WITH 1300L, WAS ADHERED TO 890 THAT IS UTILIZED TO CREATE A BETTER PRESSURIZATION SEAL. CAUSED SITUATION WHEREAS DEALING WITH THE SEAL BECAME A PART OF THE OPERATION TO REMOVE THE EMERG EXIT. ALSO, INTERIOR TRIM PIECE THAT IS VELCROED INTO PLACE WAS TRAPPED IN PLACE WITH SEAT IN OTBD POSITION. THIS TRIM PIECE BLOCKED 6-8 INCHES OF THE LOWER PORTION OF THE EXIT OPENING.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

3/1/98 To 3/7/98 ISSUE: 98-10 ZAC-327

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7810	800CP	MAULE				EXHAUST SYSTEM	CRACKED		1/1/98
	14058C	MXT7180				5327F32	ENG MUFFLER		98ZZZX891
*****	OVER A PERIOD OF THREE YEARS, NINE OCCURRENCES OF EXHAUST/MUFFLER PROBLEMS. THESE INCLUDE EXCESSIVE VIBRATION RESULTING IN CRACKING OF WELDS, AT CONNECTION OF EXHAUST PIPES AND MUFFLER. IN ADDITION, CRACKING OF WELD SPOTS AT VARIOUS LOCATIONS TO INCLUDE ROD CONNECTING THE TWO TAILPIPES. ON ONE OCCASION, EXHAUST PIPE HAD PULLED AWAY FROM MANIFOLD CREATING A SEVERE FIRE HAZARD.								
2430	9612M	MOONEY				BATTERY	POOR GROUND		2/19/98
	670189	M20F					AFT AVION TRAY		98ZZZX886
	TROUBLESHOOTING FOR POOR BATTERY CHARGING, INTERMITTENT CRANKING, AND INTERMITTENT GPS/COMM FAILURES, FOUND PAINT ON AIR FRAME STRUCTURE CAUSING POOR BATTERY GROUND. SUBMITTER SUGGESTS REMOVING PAINT UNDER BOLTS AND NUT AND ADD A HEAVY GROUND STRAP.								
2434	6870F	PIPER			ELECTROSYS	ALTERNATOR	FAILED	177	2/14/98
R7LR	287790170	PA28181				4111810	DC SYSTEM		98ZZZX890
	ALTERNATOR WAS OVERHAULED BY ELECTROSYSTEMS, FAILED AFTER 177 HOURS. ON INSPECTION, FOUND 2 DIODE TABS CRACKED AND ARCING DIODES OBVIOUSLY NOT REPLACED AT OVERHAUL. SUBMITTER STATED THIS IS SECOND ELECTROSYSTEMS ALTERNATOR THAT FAILED AFTER VERY SHORT SERVICE LIFE.								
3240		PIPER				VALVE	MALFUNCTIONED		12/23/97
	7300116	PA31P				492152	PARKING BRAKE		98ZZZX920
	SUBMITTER SUGGESTS PARKING BRAKE VALVE P/N 492152 IS DEFECTIVE. WHEN HANDLE OR LEVER ASSY IS MOVED, IT DISENGAGES AND VALVE CANNOT BE SET OR RESET.								
3340	9290P	PIPER				WIRE HARNESS	ARCING	57	2/17/98
	4496019	PA44180					TAIL STROBE		98ZZZX918
*****	SEVERAL LOUD POPS WERE HEARD IN THE TAILCONE OF THE AIRCRAFT WHEN THE STROBE LIGHTS WERE TURNED ON. INSPECTION OF STROBE POWER SUPPLY WIRING REVEALED BARE WIRES WHERE THE EXTERIOR INSULATION HAD BEEN STRIPPED. THE GRAY INSULATION WAS STRIPPED BY A TOOL THAT CUT TOO DEEPLY AND LEFT THE UNDERLYING RED, WHITE, AND BLACK WIRES EXPOSED. THE RED WIRE ARC'D TO THE SURROUNDING AIRCRAFT STRUCTURE DAMAGING THE INSULATION FURTHER.								
7810	61PF	PIPER				MUFFLER	FAILED	1860	2/9/98
I57S	447995187	PA44180				8629907	LT ENG AFT		98ZZZX908
*****	ACFT EXPERIENCED A FIRE IN THE LT ENG NAC JUST AFTER A RUN-UP. FIRE STARTED AFTER ACFT TURNED DOWNWIND AND BEGAN TAXIING. FIRE EXTINGUISHED. INSP REVEALED AFT MUFFLER HAD CRACKED AND SPLIT CIRCUMFERENTIALLY NEAR THE LT (OTBD INLET.) HOT EXHAUST GASSES IGNITED LOWER FIBERGLASS COWLING CAUSING FIRE/HEAT DAMAGE, IGNITION HARNESS, STARTER CABLE, FUEL PUMP, AND CHT PROBE. CLOSER INSP OF MUFFLER (PIPER P/N 86299-07) REVEALED METAL CORRODED AND 'PAPER THIN' ADJ TO THE CRACK. SMALL PORTIONS OF METAL NEXT TO THE CRACK WERE BENT OUTWARD SUGGESTING ENG "AFTERFIRE" MAY HAVE CONTRIBUTED TO MUFFLER FAILURE. MUFFLER FAILURE POINT WELDS INDICATING MUFFLER PREVIOUSLY CRACKED.								
(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT)									

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS**3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327**

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2312 LS1R	206BY 2871	BELL 206B3			KING KY196	TRANSCEIVER 064101900	DEFECTIVE COCKPIT		2/17/98 489 98ZZZX864
TRANSCEIVER FREQUENCY KNOB WILL NOT WORK. STANDBY SELECT SWITCH WILL NOT WORK.									
3457 HEEA	4180F 51469	BELL 206L3			SKYNAV 5000	GPS 0845000000	DAMAGED COCKPIT		2/25/98 HEEA0013071
MESSAGE SWITCH DAMAGED. SENT TO MAGELLAN SYSTEMS FOR INSPECTION AND REPAIR.									
6710 LS1R	206BY 2871	BELL 206B3				LINEAR ACTUATOR 206062721001	FAILED ENGINE		2/12/98 380 98ZZZX865
LINEAR ACTUATOR MOTOR WILL NOT RUN.									
6710 HEEA		BELL 206L1				BEARING 206001057003	MIS MFG MIXING LEVER		2/26/98 HEEA0013106
BEARING TURN DOWN AREA WHERE THREADS END IS NOT TURNED DOWN TO FIT BELLCRANK ASSY. BUSHING HOLE ALSO DOESN'T HAVE PROPER CHAFFED AREA.									
7230	404W 52055	BELL 206L4	ALLSN 250C30P			SCROLL 6896888	CRACKED ENGINE COMP		1/15/98 1360 98ZZZX819
DURING SCHEDULED 100-HOUR INSPECTION, DISCOVERED COMPRESSOR SCROLL CRACKED IN ABOUT 2 O'CLOCK AREA OF RIGHT SHOULDER IN THE CURVATURE NEAR THE MATING SURFACE TO THE COMPRESSOR. THIS WAS A REPAIRED SCROLL THAT HAD BEEN INSTALLED DUE TO A PREVIOUSLY CRACKED SCROLL WHEN THE ENGINE ONLY HAD 712.3 HOURS TIME SINCE NEW. THE REPAIRED SCROLL ACCRUED 1,359.6 HOURS TIME SINCE REPAIR BEFORE IT FAILED IN THE SAME AREA AS THE PREVIOUS SCROLL THAT CRACKED.									
6220 GJQR	98W 35100	BELL 212				DAMPER ASSY 204010937009	LEAKING M/R	538	2/26/98 HAIGJQR0171
DAMPER ASSY EXCESSIVE LEAKAGE. REPLACED DAMPER FROM CSF STOCK -									
6220 GJQR	98W 35100	BELL 212				DAMPER ASSY 204010937009	LEAKING M/R	538	2/26/98 HAIGJQR0170
DAMPER HAS EXCESSIVE LEAKAGE. REPLACED DAMPER FROM CSF STOCK -									
6310 TI1R	219HM 47573	BELL 222U				COUPLING 222044672101	CORRODED DRIVE	426	12/16/97 98ZZZX941
OUTER COUPLING HAS CORROSION ON INTERNAL SPLINES. LESS THAN 1 YEAR IN SERVICE. REMOVED AND REPLACED.									
6310 TI1R	219HM 47573	BELL 222U				COUPLING 222044672101	CORRODED DRIVE	426	12/16/97 98ZZZX940
OUTER COUPLING HAS CORROSION ON INTERNAL SPLINES, LESS THAN 1 YEAR ON SERVICE. REMOVED AND REPLACED.									
2430 TI1R	4UV 23019	BELL 230				SHUNT 1820300150	BURNT GENERATOR SYSTEM		1/19/98 98ZZZX943
GENERATOR SYSTEM SHUNT DISCOLORED. REMOVED AND REPLACED.									
2910 TI1R	4UV 23019	BELL 230				HOSE AE1009102G014	CHAFED HYDRAULIC SYSTEM		1/9/98 98ZZZX944
HYDRAULIC HOSE CHAFED. REMOVED AND REPLACED.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

3/1/98 To 3/7/98 ISSUE: 98-10 ZAC-327

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3424 TI1R	4UV 23019	BELL 230				INDICATOR 222375072105	FAILED TURN GYRO	1436	1/7/98 98ZZZX945
TURN INDICATOR INOPERATIVE. GYRO WILL NOT SPIN UP. REMOVED AND REPLACED.									
5260 HEEA	3893L 33006	BELL 412				ACTUATOR 212075418105	INOPERATIVE STEP	383	2/25/98 HEEA0013068
STEP ACTUATOR INOPERATIVE.									
6220 HEEA	3893N 33010	BELL 412				BEARING 412010182101	WORN M/R	570	2/25/98 HEEA0013069
BEARING INNER RACE SHOULDER WORN ON ONE SIDE DUE TO LOST TORQUE OF NUT P/N MS14145L5 WHICH WAS CAUSED BY THE LACK OF THREADS ON THIS NUT OR WASHER P/N AN960-516 NOT CONTACTING THE PITCH HORN FULLY AS NOTED IN ASB 412-98-92. PART ALREADY SENT.									
6220 HEEA	3893N 33010	BELL 412				BEARING 412010182101	WORN M/R	864	2/25/98 HEEA0013070
BEARING INNER RACE SHOULDER WORN ON ONE SIDE DUE TO LOST TORQUE OF NUT P/N MS14145L5 WHICH WAS CAUSED BY THE LACK OF THREADS ON THIS NUT OR WASHER P/N AN960-516 NOT CONTACTING THE PITCH HORN FULLY AS NOTED IN ASB 412-98-92. PART ALREADY SENT.									
2211 TI1R	117NG 7083	BOLKMS BK117A4				COMPUTER 11788292	FAILED SPAS	130	1/16/98 98ZZZX938
SPAS COMPUTER WILL NOT PASS COLLECTIVE TRANSDUCER TEST. REMOVED AND REPLACED.									
2430 TI1R		BOLKMS BK117B1				TOGGLE SWITCH SP461300	FAILED DC SYSTEM		11/11/97 98ZZZX913
SWITCH SPRING WEAK. REMOVED AND REPLACED.									
2432 TI1R	117CH 7061	BOLKMS BK117A3				BATTERY RG390E	FAILED DC SYSTEM	198	1/19/98 98ZZZX949
BATTERY WEAK, SLOW STARTS, WILL NOT TOP CHARGE AFTER 4 HOURS. GREEN LIGHT WOULD NOT COME ON. REMOVED AND REPLACED.									
2810 TI1R	1140H 7078	BOLKMS BK117A3				DRAIN VALVE 1176416901	LEAKING FUEL TANK		11/18/97 98ZZZX947
FUEL TANK HAS STATIC LEAK AT DRAIN VALVE. REMOVED AND REPLACED.									
3446 TI1R	4493X S7038	BOLKMS BK117A3			WX95	STORMSCOPE 80510950001	FAILED COCKPIT		1/14/98 98ZZZX946
STORMSCOPE UNIT NOT RECEIVING INPUT. REMOVED AND REPLACED.									
3446 TI1R	117NG 7083	BOLKMS BK117A4				DISPLAY 78806059008	FAILED STORMSCOPE		1/15/98 98ZZZX939
STORMSCOPE DISPLAY INOPERATIVE. FAILED APPROXIMATELY 1 MONTH AFTER INSTALLATION. REMOVED AND REPLACED.									
3454 TI1R	117M S7023	BOLKMS BK117A1				INDICATOR 3137LB63B	FAILED COCKPIT RMI		1/29/98 98ZZZX950
RMI INDICATOR 'OFF' FLAG WILL NOT STOW. REMOVED AND REPLACED.									
6520 TI1R		BOLKMS BK117A3				BEARING 4639311003	DEFECTIVE T/R GEARBOX		1/5/98 98ZZZX911
OUTPUT SHAFT WOULD NOT FIT THROUGH ROLLERS WHEN BEARING WAS INSTALLED IN COVER OF T/R GEARBOX. REMOVED AND REPLACED.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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6520 BAQR	912TG 7174	BOLKMS BK117B1				GEARBOX 4639003001	CRACKED T/R	5594	1/12/98 98ZZZX863
DURING PRE-FLIGHT INSPECTION, A CRACK IN THE TAIL ROTOR GEARBOX HOUSING WAS FOUND IN THE AREA OF THE MOUNTING STUDS.									
8000 TI1R	1140H 7078	BOLKMS BK117A3				SWITCH 151PS01A6A	INTERMITTENT START SYSTEM		1/7/98 98ZZZX948
SWITCH ONLY MAKING CONTACT INTERMITTENTLY. DEFECTIVE UPON INSTALLATION. REMOVED AND REPLACED.									
2140 TI1R	117NC 7509	BOLKMS BK117C1				CONTROL UNIT 11798439	FAILED HEATER		12/28/97 98ZZZX951
HEATER OVERHEATED. REMOVED AND REPLACED.									
3610 TI1R	117NC 7509	BOLKMS BK117C1				VALVE HTC200016	STICKS BLEED SYSTEM		12/18/97 98ZZZX953
VALVE STICKS WHEN SELECTING HEAT. REMOVED AND REPLACED.									
3610 TI1R	117NC 7509	BOLKMS BK117C1				VALVE HTE200016	FAILED BLEED SYSTEM		12/29/97 98ZZZX952
BLEED VALVE DOES NOT OPERATE. REMOVED AND REPLACED.									
6320 TI1R		BOLKMS BK117C1				BEVEL GEAR 4639311042	DEFECTIVE T/R GEARBOX		1/6/98 98ZZZX914
GEAR WOULD NOT GET A CONTACT PATTERN WITHIN ACCEPTABLE LIMITS WHEN MATED TO BEVEL. GEARSHAFT P/N 4639311043, S/N 797. REMOVED AND REPLACED.									
6410 TI1R	317MC 7505	BOLKMS BK117C1				BLADE 117317411	DEBONDED T/R		12/16/97 98ZZZX942
T/R BLADE DEBONDED. REMOVED AND REPLACED.									
6520 TI1R		BOLKMS BK117C1				BEVEL GEAR SHAFT 4639311043	DEFECTIVE T/R GEARBOX		1/6/98 98ZZZX915
GEAR COULD NOT GET A CONTACT PATTERN WITHIN ACCEPTABLE LIMITS WHEN MATCHED TO BEVEL. GEAR SHAFT P/N 4639311042, S/N 978. REMOVED AND REPLACED.									
6520 TI1R		BOLKMS BK117C1				BEARING 4639310012	ROUGH T/R GEARBOX		1/5/98 98ZZZX912
BEARING WAS ROUGH WHEN INSTALLED ON BEVEL GEAR SHAFT. REMOVED AND REPLACED.									
6520 TI1R		BOLKMS BK117C1				BEARING 4639306006	ROUGH T/R GEARBOX		1/5/98 98ZZZX910
BEARING WAS ROUGH WHEN INSTALLED ON LEVER GEAR SHAFT. REMOVED AND REPLACED.									
7400 JRP2	957SD RN011	DOUG 600N				RELAY SOCKET VB81KA723	FAILED ENG IGNITION		2/19/98 98ZZZX907
*****	DURING GROUND TEST ENGINE RUN, ENG FLAMED OUT AFTER LESS THAN A MINUTE. FUEL GAUGES INDICATED APPROX 70 POUNDS OF FUEL. AFTER TANKS TOPPED OFF AND FUEL LINES PURGED, ATTEMPTED RESTART WITHOUT SUCCESS. FURTHER T/S LOCATED INOP IGNITER FUNCTION. THIS WAS T/S TO INTERMITTENT IGNITER RELAY SOCKET. VIBRATION ON WIRING HARNESS WOULD CAUSE RELAYS TO DE-ENERGIZE INTERMITTENTLY. SEVERAL RELAYS AFFECTED. CURRENT MD600 MM ARE TOO INADEQUATE TO IDENTIFY THE FUNCTION OF RELAYS. SUBMITTER SUSPECTS THAT 3 RELAYS ARE: FADEC START RELAY. FADEC IGNITION RELAY AND BATTERY HITEMP RELAY. SUSPECTED FADEC ECU MAY HAVE SHUT ENG DOWN DUE TO LOSS OF SIGNAL LINES FROM INTERMITTENT RELAYS. TSN: 12.6 HRS.								

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7321	991SD	HUGHES	ALLSN		BENDIX	BELLOWS	DEFECT		2/19/98
	0500E	369E	250C20B		23057344	2537688	FUEL CONTROL		98ZZZX922
	FUEL CONTROL DEFECT. UNABLE TO GET MAXIMUM SPEED; FOUND DURING TESTING. GOVERNOR SETTING 75 RPM, LOW BELOW MINIMUM.								
7321	992SD	HUGHES	ALLSN		BENDIX	FUEL CONTROL	MALFUNCTIONED	1075	2/19/98
	510E	369E	250C20B			23057344	ENGINE		98ZZZX921
	HOT START ON FIRST START OF DAY ONLY. FOUND DURING A RECEIVED TEST. FIRST 2 TEST POINTS FOUND RICH CAUSED BY LEAKING START-DERICH BELLOWS. REPLACED BELLOWS AND RETESTED.								

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES**3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327**

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7421	1	AMTRDF KITFOX	ROTAX ROTAX532			SPARK PLUG	FAILED ENGINE	11/27/97	98ZZX898
AN EQUIVALENT AUTOMOTIVE SPARK PLUG WAS USED IN PLACE OF THE ENGINE MANUFACTURER-RECOMMENDED SPARK PLUG DUE TO LOCAL AVAILABILITY. AFTER APPROXIMATELY 25 HOURS, A ROUTINE INSPECTION CAUSED BOTH SPARK PLUGS TO BE REMOVED. THERE IS ONLY ONE SPARK PLUG PER CYLINDER AND TWO CYLINDERS PER ENGINE. THE FRONT SPARK PLUG, CLOSEST TO THE GEAR REDUCTION UNIT, WAS INTERNALLY BROKEN - THE METAL ELECTRODE INSIDE THE PORCELAIN HOUSING HAD BROKEN IN HALF AND WAS FREE TO FLOAT INSIDE.									
8530 ES4R	2043X E1387	BEECH A36	CONT IO550B			CYLINDER 65344A6	CRACKED NR 5	1185	1/29/97 98ZZX875
NR 5 CYLINDER HAD CRACK AT UPPER SPARK PLUG BOSS. THIS ENGINE HAS HAD C/W SID 97-2, SID 97-3, AND PROPER MAINTENANCE DURING ITS LIFE. BAFFLING, FUEL SYSTEM SETUP, AND GENERAL MAINTENANCE HAVE BEEN CAREFULLY CONTROLLED ON THIS ENGINE.									
7230	404W 52055	BELL 206L4	ALLSN 250C30P			SCROLL 6896888	CRACKED ENGINE COMP	1360	1/15/98 98ZZX819
DURING SCHEDULED 100-HOUR INSPECTION, DISCOVERED COMPRESSOR SCROLL CRACKED IN ABOUT 2 O'CLOCK AREA OF RIGHT SHOULDER IN THE CURVATURE NEAR THE MATING SURFACE TO THE COMPRESSOR. THIS WAS A REPAIRED SCROLL THAT HAD BEEN INSTALLED DUE TO A PREVIOUSLY CRACKED SCROLL WHEN THE ENGINE ONLY HAD 712.3 HOURS TIME SINCE NEW. THE REPAIRED SCROLL ACCRUED 1,359.6 HOURS TIME SINCE REPAIR BEFORE IT FAILED IN THE SAME AREA AS THE PREVIOUS SCROLL THAT CRACKED.									
8530 ES4R	73463 20700593	CESSNA 207A	CONT IO550*			CYLINDER 653447A1	CRACKED NR 1	1/29/97	98ZZX895
NR 1 CYLINDER HAD CRACK AT UPPER SPARK PLUG BOSS. THIS ENGINE HAS HAD C/W SID 97-2, SID 97-3, AND PROPER MAINTENANCE. BAFFLING, FUEL SYSTEM SET-UP AND GENERAL MAINTENANCE HAVE BEEN CAREFULLY CONTROLLED ON THIS ENGINE.									
8530 ES4R	73463 20700593	CESSNA 207A	CONT IO550*			CYLINDER 653447A	CRACKED NR 4	1076	1/29/97 98ZZX894
NR 4 CYLINDER HAD CRACK AT UPPER SPARK PLUG BOSS. THIS ENGINE HAS HAD C/W SID 97-2, SID 97-3, AND PROPER MAINTENANCE. BAFFLING, FUEL SYSTEM SET-UP, AND GENERAL MAINTENANCE HAVE BEEN CAREFULLY CONTROLLED ON THIS ENGINE.									
8550 EHHR	132CM 33701817	CESSNA 337H	CONT IO360G			PUMP	FAILED ENGINE OIL	955	2/5/98 98ZZX874
FOLLOWING TAKEOFF, AIRSPEED SLOWED. REAR ENGINE INSTRUMENTS INDICATED ENGINE WAS LOSING POWER. OIL PRESSURE WAS DROPPING AND THE PROPELLER WENT INTO FEATHER. THE ENGINE WAS SHUT DOWN AND A LANDING WAS MADE. AN INSPECTION OF THE ENGINE DETERMINED THE OIL PUMP HAD FAILED.									
8520 NT2R	3959G 340A0243	CESSNA 340A	CONT TSIO520N			CRANKCASE	BROKEN RT SIDE	2646 1291	2/6/98 98ZZX883
CRANKCASE BROKE AT UPPER REAR BETWEEN MAGNETOS DOMINATING ON THE RT SIDE OF THE CRANKCASE PARTING SURFACE. NO CRANKCASE PARTS WERE MISSING, BUT IT APPEARS TO BE INTERNAL FAILURE. THE ENGINE WAS REMOVED AND SENT TO RAM AIRCRAFT OFR OVERHAUL.									
7240 IMJA	232DM 5500079	CESSNA 550	PWA JT15D4			HOUSING ASSY 310501601	FAILED COMB LINER	3156	2/17/97 98ZZX857
DURING ROUTINE PHASE 'B' INSPECTION, THE 7 O'CLOCK IGNITER WAS REMOVED AND THE COMBUSTION CHAMBER LINER GROMMET (HOUSING ASSY?) FELL FROM POSITION INTO THE SPACE SURROUNDING THE COMBUSTION CHAMBER. SUSPECT THE HOUSING WEBS BROKE FREE FROM THE COMBUSTION LINER AND WHEN THE IGNITER WAS WITHDRAWN, THE HOUSING FELL TO THE BOTTOM OF THE COMBUSTION CHAMBER.									
7321	991SD 0500E	HUGHES 369E	ALLSN 250C20B		BENDIX 23057344	BELLOWS 2537688	DEFECT FUEL CONTROL	2/19/98	98ZZX922
FUEL CONTROL DEFECT. UNABLE TO GET MAXIMUM SPEED; FOUND DURING TESTING. GOVERNOR SETTING 75 RPM, LOW BELOW MINIMUM.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES (cont'd)

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ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7321	992SD 510E	HUGHES 369E	ALLSN 250C20B		BENDIX	FUEL CONTROL 23057344	MALFUNCTIONED ENGINE	1075	2/19/98 98ZZZX921
HOT START ON FIRST START OF DAY ONLY. FOUND DURING A RECEIVED TEST. FIRST 2 TEST POINTS FOUND RICH CAUSED BY LEAKING START-DERICH BELLOWS. REPLACED BELLOWS AND RETESTED.									
8520 MSTA *****	TGWOW 61P068379633	PIPER PA60601P	LYC IO540S1A5			CRANKSHAFT LW10842	FAILED NR 2 JOURNAL	882 8	1/24/98 98ZZZX909
PILOT (OWNER) DEPARTING FROM AIRPORT AND CLIMBING THROUGH 4,000 FEET NOTED LOUD BANG AND SEVERE VIBRATION FROM LT ENGINE. ENGINE SHUT DOWN AND SECURED AND SAFE LANDING MADE. DISASSEMBLY OF ENGINE REVEALED CRANKSHAFT BROKEN. BREAK OCCURRED AT THE REAR CHEEK OF THE NR 2 ROD JOURNAL IN THE RADII. CRANKCASE, RODS, CAMSHAFT, AND CYLINDERS ALL NOW N.G.									
8520	56WB 284470	PIPER PA28180	LYC O360A3A			CRANKSHAFT 77037	CRACKED NR 5 JOURNAL	9	2/10/98 98ZZZX916
CRANKSHAFT WAS FOUND CRACKED AFTER PRECAUTIONARY REMOVAL FOLLOWING RECENT ENGINE OVERHAUL (8.8 HRS). CRANKSHAFT WAS PROCESSED BY REPAIR AGENCY PRIOR TO INSTALLATION. SUBMITTER SUGGESTED PART MAY HAVE BEEN IMPROPERLY MACHINED. CRACK WAS AT NR 5 JOURNAL RADIUS APPROXIMATELY 2.50 INCHES IN LENGTH.									
8520	15008 347250346	PIPER PA34200	LYC LIO360C1E6			CRANKSHAFT LW17577	CRACKED JOURNAL		2/10/98 220 98ZZZX923
PART REMOVED FOR MPI, AS A PRECAUTION. THIS CRANKSHAFT WAS RE-WORKED BY AIR AGENCY AND WAS FOUND TO HAVE CRACKS IN THE JOURNAL RADII.									
7314	102PA 4636068	PIPER PA46350P	LYC TIO540AE2A			PUMP LW13909	LEAKING ENGINE FUEL	152	5/11/97 98ZZZX917
ENGINE WILL NOT SHUT DOWN WITH MIXTURE CONTROL. FOUND FUEL PUMP LEAKING INTO UPPER DECK LINE.									

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS**3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2312 LS1R	206BY 2871	BELL 206B3			KING KY196	TRANSCEIVER 064101900	DEFECTIVE COCKPIT	 489	2/17/98 98ZZZX864
TRANSCEIVER FREQUENCY KNOB WILL NOT WORK. STANDBY SELECT SWITCH WILL NOT WORK.									
3457 HEEA	4180F 51469	BELL 206L3			SKYNAV 5000	GPS 0845000000	DAMAGED COCKPIT	 	2/25/98 HEEA0013071
MESSAGE SWITCH DAMAGED. SENT TO MAGELLAN SYSTEMS FOR INSPECTION AND REPAIR.									
3424 TI1R	4UV 23019	BELL 230				INDICATOR 222375072105	FAILED TURN GYRO	1436	1/7/98 98ZZZX945
TURN INDICATOR INOPERATIVE. GYRO WILL NOT SPIN UP. REMOVED AND REPLACED.									
2211 TI1R	117NG 7083	BOLKMS BK117A4				COMPUTER 11788292	FAILED SPAS	130	1/16/98 98ZZZX938
SPAS COMPUTER WILL NOT PASS COLLECTIVE TRANSDUCER TEST. REMOVED AND REPLACED.									
3446 TI1R	4493X S7038	BOLKMS BK117A3			WX95	STORMSCOPE 80510950001	FAILED COCKPIT		1/14/98 98ZZZX946
STORMSCOPE UNIT NOT RECEIVING INPUT. REMOVED AND REPLACED.									
3446 TI1R	117NG 7083	BOLKMS BK117A4				DISPLAY 78806059008	FAILED STORMSCOPE		1/15/98 98ZZZX939
STORMSCOPE DISPLAY INOPERATIVE. FAILED APPROXIMATELY 1 MONTH AFTER INSTALLATION. REMOVED AND REPLACED.									
3454 TI1R	117M S7023	BOLKMS BK117A1				INDICATOR 3137LB63B	FAILED COCKPIT RMI		1/29/98 98ZZZX950
RMI INDICATOR 'OFF' FLAG WILL NOT STOW. REMOVED AND REPLACED.									
6113 WIWR	9897F 17280181	CESSNA 172R				SPINNER 055023613	CHAFED PROPELLER		2/2/98 98ZZZX933
INTERFERENCE BETWEEN PROPELLER AND PROPELLER SPINNER CAUSING CHAFING ON PROPELLER.									
<u>(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS)</u>									

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS

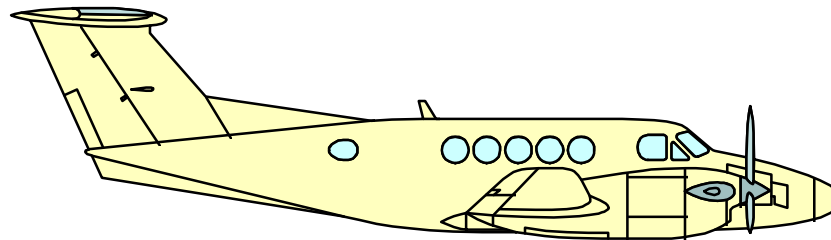
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6110	21457	CESSNA		MCAULY		BEARING	CRACKS	1863	1/1/98
LU4R	18261642	182P		2A34C201		C34112	PROPELLER ASSY		98ZZZX876
PROPELLER ASSEMBLY HAS NUMEROUS CRACK INDICATIONS ON THE SURFACE THAT FACES THE HUB.									
6111	979ND	CESSNA		MCAULY		BLADE	CRACKED	3812	2/10/98
LU4R	18257443	182J		2A34C201		90DA8	PROPELLER	180	98ZZZX897
PROPELLER WAS SHOWING SIGNS OF ERRATIC PITCH CHANGE AND STICKING. BLADE SHOWS EVIDENCE OF PREVIOUS IMPACT STRIKE. THIS AIRCRAFT HAD PREVIOUSLY HAD A STUCK PRESSURE RELIEF VALVE IN THE GOVERNOR WHICH, AFTER DISCUSSION WITH THE PILOT, MAY HAVE CAUSED AN OVERSPEED TO THE PROPELLER.									

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS)



INTERNATIONAL SERVICE DIFFICULTY REPORT



INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT**3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
5711		AYRES S2*	PWA R1340AN1		AYRES	SPAR 2020343L	CRACKED WING ROOT	4317	2/8/93 CA930225301
(CAN) CRACKS FOUND IN ALUMINUM CAP STRIP PER SB AG23, ITEM NR 6. BOTH RT AND LT WINGS HAD THE AYRES KIT S2R-FF-002 INSTALLED.									
5712		AYRES S2*	PWA R1340AN1		AYRES	RIB 2417R	CRACKED WS 72-25 RH WING	4317	2/8/93 CA930225302
(CAN) RIB AT RT WING STATIONS 72-25 REPLACED PER SB NR 12.									
2731		BBAVIA 8GCBC				CABLE 21905	FRAYED ELEVATOR TRIM	4740	3/9/93 CA930316401
(CAN) BOTH ELEVATOR TRIM CABLES FOUND FRAYED AT ALUMINUM PULLEYS UNDER ELEVATOR.									
2730		BEECH 3NM				TORQUE ARM 804187504	CRACKED ELEVATOR		6/10/92 CA930316302
(CAN) CRACK FOUND IN CONTROL ARM. FOUND DURING INSPECTION PER AD 77-19-07.									
2730		BEECH D18S				TORQUE ARM 804187504	CRACKED ELEVATOR		5/12/92 CA930316301
(CAN) DURING AD 77-19-07 INSPECTION, CRACK FOUND IN ELEVATOR CONTROL ARM.									
3242		BEECH B200	PWA PT6A41			LINE 1015800121	CHAFED BRAKE RT		3/1/93 CA930311501
(CAN) AIR SCOOP DUCT IN LEADING EDGE OF RT WING, INBOARD OF NACELLE, WHICH IS USED TO DIRECT AIR TO BLEED AIR INTERCOOLER CRACKED IN HALF AND VIBRATED IN AIR FLOW ENOUGH TO WEAR THROUGH THE .25 INCH ALUMINUM BRAKE LINE MOUNTED DIRECTLY BELOW THE DUCT. PILOT NOTED A SOFT PEDAL AND THEN COMPLETE BRAKE FAILURE OF RT SIDE BRAKE SYSTEM.									
5313		BEECH 200BEECH	PWA PT6A41			STRINGER	CRACKED STA 347.75	12066	11/15/92 CA930310126
(CAN) STRINGERS 8, 9, AND 10 RT, FOUND CRACKED ON REAR PRESSURE BULKHEAD, AFT SIDE AT STA 347.75.									
3230		BEECH E95	LYC IO360B1B		CUTLERHAM	RELAY 6046H39A	FAILED MLG RETRACT	45	3/23/93 CA930303304
(CAN) LANDING GEAR FAILED TO RETRACT FULLY. LANDING GEAR DYNAMIC BRAKE RELAY FAILED.									
2720		CESSNA 150M				CABLE 040010749	WORN RUDDER	3382	2/24/93 CA930304403
(CAN) RT AND LT RUDDER CABLES FOUND FRAYED AND WORN AT AFT PULLEY STA 187.0 AND ALSO AT FORWARD PULLEY STA 21.0.									
5553		CESSNA 152				BRACKET 04320049	CRACKED VERTICAL FIN	702	1/26/93 CA930304528
(CAN) DURING INSPECTION PER AD 80-11-04 AND SE79-49, A CRACK WAS FOUND AT THE VERTICAL FIN ATTACH BRACKET. ANOTHER CRACK WAS FOUND UNDER THE NUTPLATE AFTER BRACKET HAD BEEN REMOVED. THE CRACKS WERE NOT FOUND ON THE NUTPLATE AS THE AD SUGGESTED. AIRCRAFT TT: 8,135.									
2510		CESSNA 172C			05141231	PIN MS203922C11	WORN FRONT SEAT	8927	2/17/93 CA930226406
(CAN) PINS THAT RETAIN SEAT BACK IN VERTICAL POSITION FOUND WORN APPROX 1/2 WAY THROUGH AT LOAD BEARING AREA APPARENTLY DIFFICULT TO INSPECT.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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3221		CESSNA 172M			0540131	RIVETS	SHEARED NLG UPPER MOUNT	6435	2/23/93 CA930304608
(CAN) NLG UPPER MOUNT FITTING FOUND LOOSE. ALL EIGHT RIVETS FOUND SHEARED. LOWER MOUNT CAP P/N 05430181 HAD TO BE REMOVED, AND STEERING ARMS DISCONNECTED TO SEE PROBLEM.									
3260		CESSNA 177RG				WIRE	BROKEN NLG		2/1/93 CA930225203
(CAN) UNSAFE GEAR INDICATION ON APPROACH. GEAR RECYCLED, STILL NO LIGHTS. LANDING OK. BROKEN WIRE FOUND ON NLG.									
3260		CESSNA 337G	CONT IO360GB			SWITCH S13771	INTERMITTENT NLG DOWN	2650	1/4/93 CA930226518
(CAN) ON APPROACH, GEAR DOWN LIGHT NOT ON. TEMPERATURE ABOUT MINUS 35 DEGREES CELSIUS. AIRCRAFT BROUGHT INTO HANGAR AND SWITCH EVENTUALLY WORKED OK. AIRCRAFT NORMALLY KEPT OUTSIDE, BUT DEICED IN HANGAR. MOISTURE IN SWITCH CAUSED PROBLEM.									
3220		CESSNA 340A	CONT TSIO520N			LOCK ARM	BROKEN NLG		1/26/93 CA930308203
(CAN) NOSE GEAR COLLAPSED DURING TAXI. IT APPEARS THAT NOSE TURNED 90 DEGREES TO LEFT AND FELL IN RUT AND SNAPPED LOCK ARM.									
3245		CESSNA 401		MCAULY D2AF34C71		TUBE VALVE 650X10302	SHEARED LANDING GEAR		2/4/93 CA930226408
(CAN) TIRE FLAT ON LANDING. VALVE STEM FOUND SHEARED.									
2421		CESSNA 404CESSNA				ALTERNATOR 694304	FAULTY NR 1 ENGINE	2	12/16/92 CA930226521
(CAN) FLUCTUATIONS OF AMPERAGE AT LOW ENGINE SETTINGS. INOPERATIVE AT HIGH SETTINGS.									
3010		CESSNA 421C				BOOT 2757D507011	DELAMINATED LT STABILIZER	3563	1/13/93 CA930309416
(CAN) LT STABILIZER BOOT DELAMINATED IN SECTIONS DURING FLIGHT. THIS CAUSED UNEVEN ICE ACCUMULATION DURING CLIMB AND STARTED AN ELEVATOR FLUTTER.									
3233		CESSNA 500CESSNA				ACTUATOR 99120637	FAILED NLG	8045	2/17/93 CA930304404
(CAN) NOSE GEAR FAILED TO LOCK DOWN AND NOSE LIGHT STAYED OFF AND UNLOCK LIGHT WAS ON. SEVERAL RECYCLES ATTEMPTED AND ALSO EMERGENCY EXTENSION - NO CHANGE. AIRCRAFT DID FLY-BY FOR GEAR CHECK AND LANDED OK. AFTER PASSENGERS DEPLANED AND ENGINEERS WERE CHECKING AIRCRAFT GEAR, THE NLG COLLAPSED. NOSE GEAR ACTUATOR WAS BYPASSING FLUID INTERNALLY. DECODED P/N OF ACTUATOR 2-690012-7. AWAITING REPORT. PART TC: 8,320.									
3260		CESSNA 550				SWITCH 1CH1066	CORRODED RT MLG ACTUATOR	399	3/3/93 CA930312401
(CAN) WITH INSTRUMENT LIGHTING SELECTED TO DIM, RT MAIN GEAR DOWN LIGHT FAILED TO ILLUMINATE. CHECKED ON JACKS, OK. SUBMITTER SUGGESTED CAUSE OF PROBLEM WAS CORRODED SWITCH CONTACTS, CREATING RESISTANCE AND PREVENTING CURRENT FLOW WITH SWITCH IN DIM. PART TC: 533.									
2752		CNDAIR CL6012A12				FLAP ACTUATOR 853D1006	JAMMED RT INBD JACK		2/8/93 CA930226407
(CAN) DURING GROUND HANDLING AT WARSAW, POLAND, THE FLIGHT CREW REPORTED A FLAP SYSTEM FAILED TO RETRACT AND WAS IDENTIFIED BY FLAPS FAIL EICAS MESSAGE. THE EICAS PRIMARY DISPLAY INDICATED THE FLAPS AT LT=17 DEGREES AND RT=18 DEGREES. MAINTENANCE INVESTIGATION REVEALED THE RT SCREW JACK ASSY OF THE OUTBOARD FLAP WAS JAMMED. ACTUATOR WAS RETURNED TO MANUFACTURER FOR ANALYSIS AND STRIP REPORT.									
2701		DHAV DHC2MK3	PWA PT6A27		C2CF843A	CONTROL COLUMN C2CF843A	CRACKED WELD AREA		2/28/93 CA930309409
(CAN) CRACK FOUND AT WELD AREA OF CONTROL COLUMN TORQUE TUBE CF-84-01.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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3246		DHAV DHC2MK1				LINK ASSY C2US1285A	CRACKED BENT SKIS		3/5/93 CA930316403
(CAN) LT AND RT LINK ASSYS FOUND BENT AND CRACKED ON HORIZONTAL PLANE AND AT MAIN SKI AXLE THROUGH-HOLE.									
5341		DHAV DHC2MK2				STRUT	CORRODED WING STRUT		2/15/93 CA930301101
(CAN) JO BOLT CAUSED CORROSION IN LOWER END OF STRUT.									
2720		DHAV DHC3				BRACKET C3TR195	CRACKED RUDDER CONTROL		9/3/92 CA930316303
(CAN) CRACK IN RUDDER CONTROL ATTACH BRACKET FOUND ON 100-HOUR INSPECTION.									
7603		DHAV DHC6300	PWA PT6A27			QUADRANT C6CE142127	CRACKED LT LEVER		1/23/93 CA930315201
(CAN) LT POWER LEVER QUADRANT CRACKED IN TWO PLACES FROM OUTER PARAMETER TOWARDS PIVOT POINT. ONE CRACK 2 INCHES LONG AND OTHER 1.5 INCHES. THIS PART IS NEW MATERIAL MOD 6/1467 REF AD CF-73-6R1.									
7120		GULSTM 681	GARRTT TPE3311151A			YOKE 6200631	CRACKED ENG MOUNT	7480	1/29/93 CA930217302
(CAN) WHEN ENGINES REMOVED FOR WORK, LT AND RT YOKE ASSEMBLIES FOUND CRACKED AT LT LOWER SIDE APPROXIMATELY 6 INCHES UP ON INBOARD SKIN. WHEN SKIN REMOVED, LT SIDE WAS FOUND CRACKED INTO BOTH FLANGES OF 'U' CHANNEL, AND RT SIDE WAS JUST CRACKED THROUGH SKIN.									
2810		GULSTM AA5	LYC O320E2G			FUEL TANK	CONTAMINATED LT INBOARD	1647	2/1/93 CA930226508
(CAN) SILICONE FOUND INSIDE FUEL TANK. AD 89-18-08 NOT COMPLIED WITH. SILICONE HAD NOT GOTTEN TO CARBURETOR.									
2750		PIPER PA24250	LYC O540A1A			CABLE 2094202	FRAYED FLAPS	3455	2/22/93 CA930226202
(CAN) LARGE MOUSE NEST FOUND IN BELLY OF AIRCRAFT AROUND FORWARD FLAP CABLE PULLEY. CABLE FOUND FRAYED AND ONLY ONE OF CABLE WIRES WAS INTACT. REST OF THE STRANDS HAD BEEN BROKEN AND CORRODED.									
3230		PIPER PA24250	LYC O540A1A		PIPER	BUNGEE W20846006	CRACKED MLG	3455	2/22/93 CA930226203
(CAN) CRACKS FOUND ON BUNGEE ARM WHERE ARM ENGAGES MLG TRUNNION. NEW REPLACEMENT PARTS APPEAR MUCH STRONGER. THIS IS SECOND OCCURRENCE THIS OPERATOR HAS FOUND.									
3222		PIPER PA28R200	LYC IO360C1A		PIPER	TRUNNION 67054003	CRACKED NLG		2/2/93 CA930226509
(CAN) NLG LIGHT NOT ON. AIRCRAFT LANDED OK. THE BOSS WHICH CONNECTS DRAG LINK TO NLG HAD HALF OF CASTING MISSING AND OTHER HALF CRACKED THROUGH. SUBMITTER STATES THAT THE REASON BOSS CRACKED WAS THAT BOLTS WERE SO BADLY CORRODED THAT THE BOLT WHICH GOES THROUGH ARMATURE AND GEAR HOUSING BOSS, WHICH HAS TENSION SPRING ON IT, WAS JAMMED IN BUSHING AND WITH SPRING TENSION AND BUSHING HAVING TO ROLL OVER INSIDE CASTING CAUSED EXTREME TENSION ON BOSS CRACKED IT.									
5730		PIPER PA28161				SKIN 62061004	CRACKED WALKWAY	9700	3/3/93 CA930312403
(CAN) CONTINUOUS USE OF WALKWAY HAS RESULTED IN CRACKING OF UNDERSIDE OF WALKWAY SKIN AT THE END OF SKIN STIFFENERS. THIS MAY BE CHECKED USING LOWER WING ACCESS PANELS AND A FLASHLIGHT AND MIRROR.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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7160		PIPER PA28161	LYC O320D3G			BOX 8732802	CRACKED CARB HEAT	1620	12/30/92 CA930226503
(CAN) AT 100-HOUR INSPECTION, CARBURETOR AIR BOX FOUND CRACKED AT AIR INLET SIDE, JAMMING CARB HEAT AIR DOOR. FULL DOOR TRAVEL NOT POSSIBLE AND CARB HEAT PARTIALLY ON AT ALL TIMES. SPOT WELD HAD LET GO.									
2140		PIPER PA30	LYC IO320B1A		JANITROL 20D35	HEATER CHAMBER	CRACKED CABIN HEAT	400	2/1/92 CA930226504
(CAN) AS AIRCRAFT MOVING ON RAMP, BELLY OF AIRCRAFT NOTED VERY BLACK FROM HEATER EXHAUST. EXTENT OF EXHAUST TRACK WAS UNUSUAL. HEATER CHECKED AND 2 PROBLEMS FOUND. THE HEATER CHAMBER WAS CRACKED AND FUEL WAS FOUND LEAKING AT THE FUEL NOZZLE. IN ADDITION, A BIRD WAS FOUND PARTIALLY INGESTED. THE BIRD HAD USED THE RAM AIR INTAKE TO SIT AND WAS DRAWN IN AT SOME POINT.									
3213		PIPER PA30				HOUSING 2705300	CRACKED LT MLG	4415	2/1/93 CA930226510
(CAN) LT MLG HOUSING CRACKED IN WEBBING WHICH REINFORCES HOUSING.									
2720		SLNGAV T67M260				SUPPORT T67M45217	MISALIGNED RUDDER PEDAL	147	2/16/93 CA930303302
(CAN) RUDDER PEDAL WAS RELEASING UNDER APPLICATION OF PEDAL PRESSURE. ON DISASSEMBLY, HOLES IN SLIDER MATERIAL FOR LOCK PIN NOT IN LINE WITH HOLES IN UNDERLYING TUBE.									
(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT)									

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS**3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327**

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6320		BELL 206B	ALLSN 250C20		BELL	TRANSMISSION 20604000225	CONTAMINATED M/R	6675 98	1/12/93 CA930226501
(CAN) CHIP LIGHT TRANSMISSION. THIRD CHIP LIGHT IN 25 HOURS. TRANSMISSION REPLACED.									
7120		BELL 206L	ALLSN 250C20R2		206033302009	STIFFENER 206033201167	CRACKED LT ENG MOUNT	4884	1/18/93 CA930208409
(CAN) ON INSPECTION OF FORWARD LT ENGINE MOUNT ATTACH FITTING, THE STIFFENER WAS FOUND CRACKED ALONG THE BEND RADIUS BLOCK DIRECTLY UNDER THE ENGINE MOUNT LEG ATTACHMENT.									
7240		BELL 206B	ALLSN 250C20B			COMBUSTION LINER 6870992	CRACKED INNER ELBOW	6913	2/10/93 CA930308202
(CAN) PILOT REPORTED HIGHER THAN NORMAL TOT DURING CRUISE FLIGHT. MAINTENANCE INVESTIGATION REVEALED A CRACK IN THE INNER ELBOW AREA OF THE OUTER COMBUSTION LINER, ALLOWING COMPRESSOR AIR BLEED OFF. LINER REPLACED.									
7323		BELL 206B	ALLSN 250C20		CHNDLREVANS	PT GOVERNOR 23006259	FAILED ENG GEARBOX	876	7/13/92 CA930302602
(CAN) AIRCRAFT HAD ABNORMAL AMOUNT OF MAIN ROTOR OVERSPEED AT LOW COLLECTIVE SETTINGS AND DROPPING OFF AT HIGHER SETTINGS. INSP FOUND THE SET SCREW ON THE POWER TURBINE GOVERNOR HAD FALLEN OUT IN THE ENGINE PAN AND THE RETAINING CAP HAD MOVED SLIGHTLY FROM ITS MATCH MARK.									
5350		BELL 212	PWA PT6T3			MAIN BEAM PANEL	CRACKED FUSELAGE	8911	2/25/93 CA930309410
(CAN) LEFT PANEL P/N 212-030-169-213 AND RIGHT PANEL P/N 212-039-179-199 CRACKED. CRACKS NOT VISIBLE WITH LONG RANGE TANKS INSTALLED. AIRCRAFT TT: 10,260 HOURS.									
5521		BELL 214B			214020100013	SPAR ASSY 00520418	SHEARED ELEV	5870	2/15/93 CA930310127
(CAN) FASTENERS BETWEEN ASSEMBLIES SHEARED CAUSING FRETTING OF ELEVATOR RIB AND TUBULAR SPAR.									
2400		BOLKMS BO105C	ALLSN 250C20B		MCAULY 10591126	RELAY A700AAP	FAILED REV CURRENT	2696	1/8/93 CA930302613
(CAN) AFTER SHUTDOWN, PILOT NOTICED ENGINE STILL CRANKING. CRANKING STOPPED WHEN BATTERY SHUT OFF. ELECTRICAL BURNING SMELL. REVERSE CURRENT RELAY FAILED TO OPEN ON SHUT DOWN. BATTERY CRANKED THE STARTER THROUGH THE GENERATOR UNTIL RELAY BURNT INTERNALLY.									
6210		BOLKMS BO105CBS	ALLSN 250C20B		BOLKMS	BLADE 10515150E	CRACKED M/R	2222	1/27/93 CA930302612
(CAN) CRACKS FOUND DURING 100-HOUR INSPECTION. RADIUS OF ALL 4 MAIN ROTOR BLADE TRIM TABS.									
6320		BOLKMS BO105CBS	ALLSN 250C20B		4638001001	PINION GEAR 1081	PEELING M/R GR BOX	3983	12/7/92 CA930226409
(CAN) BEARING RUNNING AREA PEELING AND PITTED.									
6340		BOLKMS BO105C	ALLSN 250C20B			TACH GENERATOR 32005007	SHEARED M/R RPM		2/15/93 CA930302614
(CAN) MAIN ROTOR RPM INDICATION WAS LOST. TACH GENERATOR DRIVE SHAFT WAS FOUND TO BE SHEARED.									
6410		BOLKMS BO105CBS	ALLSN 250C20B			BLADE 10531754	CRACKED T/R	1699	2/10/93 CA930302609
(CAN) CHORDWISE CRACK IN BLADE SKIN 2/3 FROM ROOT AFT OF LEADING EDGE EROSION STRIP.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

3/1/98 To 3/7/98 ISSUE: 98-10 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6320		BOLKMS BK117A1			4639003001	PINION GEAR 4639211006	SCUFFED INPUT	2805	9/9/92 CA930309412
(CAN) HEAVY SCUFFINGS OF PINION GEAR. PART FROM US REGISTERED AIRCRAFT.									
2410		SKRSKY S61N			SKRSKY 613520600045	GEAR 6135207563	WORN NR 2 AC GEN		12/18/92 CA930302603
(CAN) REMOVAL OF NR 2 AC GENERATOR FOR LUBRICATION REVEALED THE GENERATOR NUT AND LOCKWASHER HAD COME FREE FROM MGB. ONE-THIRD OF OUTSIDE DIAMETER OF SPLINE IN CONTACT WITH LOCKWASHER.									
7200		SKRSKY S61N	GE CT581401		GE	ENGINE	FLAMED OUT NR 2		3/8/93 CA930310102
(CAN) DURING LOGGING OPERATION AT 100 TORQUE WHILE LIFTING LOAD, NR 2 ENGINE FLAMED OUT. NR 1 ENGINE TORQUE WENT TO 118 . LOAD WAS RELEASED AND SINGLE ENGINE LOADING WAS CARRIED OUT. ENGINE REMOVED FROM AIRCRAFT.									
2560		SKRSKY S76	ALLSN 250C30S		SKRSKY 762510110805	RETAINER 7625101108159	DISENGAGED NOSE FLOAT		12/28/92 CA930302604
(CAN) COVER ASSEMBLY FELL FREE AND NOSE FLOAT BAG CAME OUT OF STORAGE AREA DURING FLIGHT. FORWARD RETAINING CLIPS NOT ENGAGED DURING PACKING AND AIRFLOW FORCED OPEN.									
7603		SKRSKY S76A			CNTRLEXCORP 763010191010	CABLE C812633	BROKEN THROTTLE		12/21/92 CA930302608
(CAN) THROTTLE CABLE BROKEN APPROXIMATELY 27 INCHES FROM AFT CABLE END.									
7500		SNIAS AS350B1	TMECA ARRIEL1D			PIPE 0301027300	CRACKED FREE TURBINE	701	1/26/93 CA930302610
(CAN) P2 FREE TURBINE PIPE CRACKED IN TWO DIRECTLY UNDER MOUNTING CLIP.									

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES**3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7240		BELL 206B	ALLSN 250C20B			COMBUSTION LINER 6870992	CRACKED INNER ELBOW	6913	2/10/93 CA930308202
(CAN) PILOT REPORTED HIGHER THAN NORMAL TOT DURING CRUISE FLIGHT. MAINTENANCE INVESTIGATION REVEALED A CRACK IN THE INNER ELBOW AREA OF THE OUTER COMBUSTION LINER, ALLOWING COMPRESSOR AIR BLEED OFF. LINER REPLACED.									
7323		BELL 206B	ALLSN 250C20		CHNDLREVANS	PT GOVERNOR 23006259	FAILED ENG GEARBOX	876	7/13/92 CA930302602
(CAN) AIRCRAFT HAD ABNORMAL AMOUNT OF MAIN ROTOR OVERSPEED AT LOW COLLECTIVE SETTINGS AND DROPPING OFF AT HIGHER SETTINGS. INSP FOUND THE SET SCREW ON THE POWER TURBINE GOVERNOR HAD FALLEN OUT IN THE ENGINE PAN AND THE RETAINING CAP HAD MOVED SLIGHTLY FROM ITS MATCH MARK.									
7414		CESSNA 150H	CONT O200A		SLICK	MAGNETO SEAL 4001	LEAK LT MAG	1168	11/25/92 CA930302605
(CAN) ON START, ENGINE WOULD NOT FIRE. ENGINE FINALLY STARTED, BUT RAN ROUGH. COWLINGS REMOVED AND TIMING WAS CHECKED. LEFT MAGNETO TIMING WAS RETARDED 8-10 DEGREES. MAGNETO WAS REMOVED WHEN OIL WAS FOUND LEAKING FROM BOTTOM VENT HOLE. MAGNETO WAS FOUND OIL SOAKED DUE TO FAILURE OF FRONT OIL SEAL.									
7313		CESSNA A185F	CONT IO520D			FUEL INJECT LINE	CLOGGED NR 3 CYLINDER		2/23/93 CA930310119
(CAN) FOLLOWING TAKEOFF, NOTICED POOR ENGINE PERFORMANCE. GAUGES ALL NORMAL. NO VIBRATION. AFTER THREE MINUTES, SLIGHT VIBRATION, VERY POOR PERFORMANCE. INITIATED RETURN. AFTER FIVE MINUTES, ENGINE MISSING AND OIL TEMP CLIMBING RAPIDLY. AFTER LANDING, INSPECTION REVEALED OIL LEAK FROM NR 3 CYLINDER EXHAUST. OIL SYSTEM CONTAMINATED WITH PULVERIZED ALUMINUM. ENGINE REMOVED. INITIAL INSP FOUND NR 3 CYLINDER FUEL INJECTOR LINE CLOGGED LEADING TO DETONATION.									
7532		CESSNA 208	PWA PT6A114			BLEED CONT VALVE 311473501	FAULTY COMPRESSOR	2275	1/3/93 CA930226502
(CAN) ON FINAL, POWER REDUCED TO 500 POUNDS OF TORQUE APPROXIMATELY 1/2 MILE FROM RUNWAY. AT APPROXIMATELY 1/4 MILE FROM RUNWAY, POWER WAS INCREASED TO 700-800 POUNDS OF TORQUE. ON INCREASING POWER, THERE WERE A SERIES OF SHORT RAPID REPORTS SIMILAR TO A PISTON ENGINE BACKFIRE. POWER WAS ONCE AGAIN REDUCED AND AN UNEVENTFUL LANDING WAS MADE. MAINTENANCE FOUND THE COMPRESSOR BLEED VALVE HAD A BROKEN COTTER PIN INSIDE THE CASING. THE COTTER PIN IS USED TO HOLD THE SHAFT PIN (P/N 3023417). PART TC: 4,027.									
8520		CESSNA 310I	CONT IO470U		CONT	CRANKSHAFT 649135	BROKEN ENGINE	1259	2/12/93 CA930225204
(CAN) INFLIGHT SHUTDOWN. POWER WAS LOST IN CRUISE. PROPELLER FEATHERED. ENGINE SHUTDOWN. INSPECTION REVEALED THE CRANKSHAFT HAD FAILED.									
8520		CESSNA 401	CONT IO520E	MCAULY 3AF32C87		CRANKCASE 643202	CRACKED NR 4 CYLINDER	1461	2/19/93 CA930308201
(CAN) 50 HR INSPECTION DETECTED NO FAULTS. PILOT REPORTED ENGINE ROUGHNESS. INSPECTION REVEALED NR 4 CYLINDER HAD 2 CYLINDER HOLD-DOWN STUDS BROKEN. CYLINDER REMOVED AND AREA CLEANED. CRACK DETECTED IN CRANKCASE CRITICAL AREA. ENGINE REMOVED.									
8530		CESSNA 404CESSNA	CONT TSIO520N			CYLINDER 646657	CRACKED NR 1/3 ENGINES		2/24/93 CA930309404
(CAN) DURING FLIGHT, THE NR 1 ENGINE HAD A LOSS OF MANIFOLD PRESSURE FOLLOWED BY ROUGH RUNNING. THE FLIGHT WAS COMPLETED WITHOUT ANY FURTHER CHANGES IN TEMPERATURE AND PRESSURES. MAINTENANCE FOUND NR 3 CYLINDER HAD A CRACK WHICH EXTENDED FROM THE SPARK PLUG HOLE TO THE EXHAUST PORT. IT APPEARED THE CRACK ALLOWED HOT GASES TO ESCAPE BURNING A ONE INCH HOLE IN THE CYLINDER. THIS LARGE HOLE ALLOWED HOT GAS TO BE DIRECTED TO THE ADJACENT CYLINDER (NR 1) AND BURNING A .3750 INCH HOLE. BOTH CYLINDERS WERE REPLACED.									
8500		CESSNA 414A	CONT TSIO520N		CONT	ENGINE	MAKING METAL NR 2 ENGINE	124	2/23/93 CA930226514
(CAN) LOW OIL PRESSURE ON RUN-UP (GREEN ARC 30-60 PSI). AFTER TROUBLESHOOTING, FOUND METAL CONTAMINATION IN OIL FILTER AND DEEP DENTS IN THE OIL PUMP HOUSING.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES (cont'd)

3/1/98 To 3/7/98 ISSUE: 98-10 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7261		CESSNA 500CESSNA	PWA JT15D1			PUMP 3029284	SHEARED DRIVE SHAFT	48	2/24/93 CA930315202
(CAN) AFTER COMPLETION OF START CYCLE, N2 AND OIL PRESSURE INDICATIONS BEGAN TO DECREASE. WHEN OIL PRESSURE REACHED MINIMUM INDICATION, THE ENGINE WAS SHUT DOWN. FURTHER INVESTIGATION AND REMOVAL OF THE OIL PUMP FOUND THE OIL PUMP DRIVE SHAFT SHEARED. PART TC: 47									
7200		DHAV DHC2MK3	PWA PT6A20		PWA	ENGINE	FAILED OIL SYS		2/11/93 CA930226402
(CAN) AIRCRAFT WAS FLYING AT 4,000 FEET WHEN SMOKE ENTERED CABIN THROUGH HEATING SYSTEM. PILOT NOTICED OIL PRESSURE FLUCTUATIONS 70-80 PSI. PILOT SHUT OFF CABIN HEAT AND IMMEDIATELY LANDED AIRCRAFT. ON LANDING ROLL-OUT, THE OIL PRESSURE DROPPED AND PILOT SHUTDOWN THE ENGINE WITH OIL PRESSURE AT 20 PSI.									
8530		DHAV DHC3	PWA R134059		PWA	EXHAUST VALVE	BROKEN NR 2 CYL	749	1/19/93 CA930226507
(CAN) ENGINE BEGAN TO VIBRATE IN-FLIGHT. PILOT MADE EMERGENCY LANDING. INSPECTION REVEALED NR 2 CYLINDER HAD NO COMPRESSION DUE TO A BROKEN EXHAUST VALVE.									
8530		MOONEY M20C	LYC O360A1D		LYC	PUSHROD 73434	BROKEN NR 1 CYLINDER		1/29/93 CA930225205
(CAN) AIRCRAFT WAS BROUGHT TO HANGAR. THE COWLINGS WERE REMOVED AND THE NR 2 CYLINDER EXHAUST VALVE PUSHROD AND PUSHROD SHROUD WERE FOUND BROKEN AND NR 2 CYLINDER INTAKE VALVE PUSHROD WAS FOUND BENT. THERE WAS NO SIGN OF THE VALVES OR LIFTERS STICKING NOR ANY SIGN OF VARNISH OR LEAD DEPOSIT BUILD-UP. MAGNETOS WERE CHECKED FOR SIGNS OF MISFIRE, NONE WAS EVIDENT. NO CAUSE OF BENT PUSHROD WAS ASCERTAINED.									
8530		MOONEY M20C	LYC O360A1D			VALVE GUIDE CE12ER	SEIZED NR 2 CYLINDER	8	1/29/93 CA930315205
(CAN) WHILE IN CRUISE, AIRCRAFT LOST POWER AND STARTED TO VIBRATE. COCKPIT FILLED WITH SMOKE. EMERGENCY LANDING CARRIED OUT. OIL PRESSURE WAS NOT LOST. INSPECTION FOUND NR 2 CYLINDER HAD ONE BENT AND ONE BROKEN PUSH ROD CAUSED BY A SEIZED EXHAUST VALVE GUIDE.									
7421		PIPER PA23250	LYC IO540C4B5		CHAMPION	SPARK PLUG REM40E	SEPARATED NR 3 CYLINDER		2/8/93 CA930304529
(CAN) SPARK PLUG SEPARATION ON NR 3 CYLINDER. PILOT NOTICED DARKENED SMOKEY SPOT ON INBOARD SIDE OF NR 1 ENGINE. PRECAUTIONARY LANDING CARRIED OUT. SPARK PLUG REPLACED.									
7414		PIPER PA30	LYC IO320B1A		BENDIX	MAGNETO 105136027	FAILED LT MAGNETO #1ENG	673	2/1/93 CA930226511
(CAN) FOLLOWING PRELIMINARY RUN-UP FOR TAXIING, THE LT MAGNETO ON NR 1 ENGINE WENT DEAD. THE CAUSE OF THE FAILURE WAS AGE OF THE MAGNETO AND THE NYLON GEAR HAD LOST SEVERAL TEETH. THE MAGNETO WAS REMOVED AND AS A CORE REPLACEMENT FOR A NEW PURCHASE. THE OTHER THREE MAGNETOS WERE ALSO REMOVED FOR MAINTENANCE.									
8520		PIPER PA31310	LYC TIO540A2C		LYC	CRANKCASE LW12030	CRACKED NR 1 CYL BASE	1576	2/22/93 CA930303301
(CAN) ON INSPECTION, THE NR 1 ENGINE CRANKCASE WAS FOUND CRACKED AT THE BASE OF NR 1 CYLINDER.									
8520		PIPER PA31310	LYC TIO540A2C		HARTZL HCE3YR2A	CRANKCASE LW12030	CRACKED NR 2 CYL BASE	1599	2/22/93 CA930305701
(CAN) ON INSPECTION, NR 2 ENGINE CRANKCASE WAS FOUND CRACKED AT BASE OF NR 2 CYLINDER.									
8530		PIPER PA31	LYC TIO540J2BD			STUDS	BROKEN NR1 ENG NR 2 CYL	795	2/17/93 CA930310303
(CAN) DURING FLIGHT IN, STALL CONFIGURATION WITH THROTTLES RETARDED, POWER WAS APPLIED TO BOTH ENGINES, NR 1 ENGINE CAME UP TO RATED POWER, NR 2 ENGINE CAME UP AND THEN LOST ALL POWER. PILOT SHUTDOWN NR 2 ENGINE. MAINTENANCE FOUND NR 2 CYLINDER LOWER FOUR MOUNTING STUDS BROKEN OFF AND THE INDUCTION PIPE OFF AT THE INDUCTION ASSY.									

***** DENOTES SIGNIFICANT OCCURRENCE

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
8530		PIPER PA31350	LYC TIO540J2BD		LYC	VALVE SEAT 71894	LOOSE NR 1 CYL EXH	596	2/19/93 CA930226201
(CAN) A LEAKING VALVE ROCKER COVER GASKET WAS NOTICED ON NR 1 CYLINDER LT ENGINE. ON REMOVAL OF THE ROCKER COVER, ALUMINUM DEBRIS WAS DISCOVERED. BORESCOPE INSPECTION REVEALED FURTHER DAMAGE WITHIN THE CYLINDER. THE ENGINE WAS REMOVED AND SHIPPED TO REPAIR AND OVERHAUL.									
8530		PIPER PA31350	LYC LTIO540J2BD		LYC	CYLINDER	CRACKED NR 1 EXH PORT	817	2/12/93 CA930225201
(CAN) EXHAUST RESIDUE WAS NOTED FORWARD OF THE EXHAUST FLANGE AND DOWN BETWEEN THE COOLING FINS. THE EXHAUST PIPE WAS REMOVED AND THE CRACK COULD BE SEEN FROM THE VALVE GUIDE UP TO THE FORWARD FACE OF THE EXHAUST PORT. THIS IS A CERMI CHROMED CYLINDER ASSEMBLY.									
7261		PIPER PA31T	PWA PT6A28			SCAVENGE PUMP 3011361	CRACKED ACCESSORY GEARBX	2635	3/3/93 CA930315206
(CAN) OIL LEAK NR 2 ENGINE. INSPECTION AND DYE PENETRANT CHECK REVEALED THE OIL SCAVENGE PUMP HOUSING WAS CRACKED. THE SCAVENGE PUMP WAS REPLACED. PART TC: 3,043.									

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS**3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3422		BEECH 9555			TACTAIR	ARTIFICIAL HORIZ T3	PRECESSING COCKPIT DG		1/6/93 CA930315204
(CAN) DIRECTIONAL GYRO (DG) PROCESSING IN CRUISE. ARTIFICIAL HORIZON BEGAN TO SHOW A LEFT TURN AND TURN AND BANK WAS NOT PROVIDING INFO FOR STRAIGHT AND LEVEL FLIGHT. PILOT THOUGHT AIRCRAFT WAS IN A RIGHT TURN. THIS CONFIRMED BY STC. SUCTION IN "GREEN". POWER REDUCED AND CONTROL REGAINED. PROBLEM MAY HAVE BEEN CAUSED BY A DIRTY FILTER OR COLD AND DAMP OF THE PARTICULAR FLIGHT TIME.									
2312		CESSNA 441				MIKE JACK NS112B	SHORTED VHF COMM	2724	1/14/93 CA930226404
(CAN) VHF COMM. LOST COMPLETELY DURING CRUISE AND AIRCRAFT APPARENTLY BLOCKING 2 ATC VHF FREQUENCIES. BOTH VHF'S WERE STUCK IN TRANSMIT, BUT WITH NO TRANSMIT LIGHT ON. PROBLEM TRACED TO A SHORTED AUXILIARY MIKE JACK.									
3442		DHAV DHC6300	PWA PT6A27		BENDIX ART161A	RADAR ART161A	WIRE FUSED POWER WIRE		2/6/93 CA930226403
(CAN) PILOTS REPORTED WEATHER RADAR CIRCUIT BREAKER TRIPPED, RESET AND TRIPPED AGAIN. AIRCRAFT WIRING TO RADAR CANNON PLUG FUSED TOGETHER INCLUDING POWER AND GROUND. SUSPECT COMBINATION OF GLYCOL CONTAMINATION AND CANNON PLUG CORROSION AS CAUSE.									
3457		DHAV DHC6300	PWA PT6A27			GPS NAVIGATOR TNL2000	WORN COCKPIT		3/3/93 CA930315203
(CAN) PUSH BUTTON KNOBS ARE BACKLIT. LETTERING IS PRESENTLY ON KNOBS AND WEARS OFF AFTER ONE YEAR.									
(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS)									

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS

3/1/98 - 3/7/98 ISSUE: 98-10 ZAC-327

ATA	REG. NO	ACFT MAKE	ENG MAKE	PROP MAKE	COMP MFG	PART NAME	PART COND	TT	DIFF. DATE
OPER	SERIAL NO	ACFT MODEL	ENG MDL	PROP MDL	COMP MDL	PART NUMBER	PART LOC.	TSO	OPER CONT NO

(There was no data for this report.)

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS)



U.S. Department
of Transportation
**Federal Aviation
Administration**

SERVICE DIFFICULTY REPORT SUMMARY

GENERAL AVIATION - INDEX



The following information provides a tally of the Service Difficulty Reports (SDR's) contained in this weeks issue of the General Aviation SDR Summary. The totals represent only a summation of the SDR's that were submitted to the FAA, Aviation Data Systems Branch, AFS-620, and processed in time for inclusion in the Summary. The first table is a tally of the number of SDR's submitted through the indicated Flight Standards District Office (FSDO). The second table sorts the SDR's by the aircraft or equipment make and model. The heading at the top of each table provides a two digit Joint Aircraft System/Component (JASC) code grouping (e.g., JASC codes 1100 thru 1800 are represented by the heading labeled 11-18) which categorizes in general, the problem areas for each reported discrepancy.

The Flight Standards Service Difficulty Program objective is to achieve prompt and appropriate correction of conditions adversely affecting continued airworthiness of aeronautical products. This is accomplished by the collection of Service Difficulty and Malfunction or Defect Reports. SDR's are consolidation and collation into common data base where they are analyzed for trends, problems, and alert information. This information is then disseminated to the appropriate segments of the aviation community and to other FAA offices.

The number of SDR's submitted is not an indicator of the mechanical reliability or fitness of an air carrier's aircraft fleet and should not be used as such. The air carriers certificate holding office has the primary responsibility for planning, programming evaluations, and assessing the performance of operators. Questions regarding an air carrier's fleet performance should be directed to the appropriate Flight Standards District Office, Certificate Management Office, or Certificate Management Unit.

GENERAL AVIATION SUMMARY INDEX BY DISTRICT OFFICE**3/1/98 To 3/7/98 ISSUE: 98-10 ZAC-327**

DISTRICT OFFICE		SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
AL	01	0	0	0	0	0	0	0	3	3
AL	05	0	0	0	0	0	0	1	0	1
CA		0	17	17	0	8	6	17	12	77
CE	07	0	0	0	0	0	0	0	1	1
EA	03	0	0	0	0	0	1	0	0	1
EA	07	0	0	0	0	0	0	1	0	1
EA	13	0	1	0	0	0	1	0	0	2
EA	17	0	1	0	0	0	0	0	1	2
EA	23	0	0	4	0	1	0	0	0	5
EA	25	0	0	0	0	0	0	1	0	1
FS	01	0	0	0	0	0	2	0	0	2
GL	05	0	1	3	0	1	0	0	0	5
GL	11	0	1	0	0	0	0	0	0	1
GL	25	0	1	1	0	0	0	0	0	2
NE	03	0	0	0	0	0	0	0	2	2
NE	05	0	0	0	0	0	0	0	1	1
NM	01	0	0	0	0	0	0	1	0	1
NM	09	0	1	0	0	0	0	0	0	1
SO	11	0	1	0	0	0	0	0	0	1
SO	15	0	0	0	0	0	0	1	0	1
SO	17	0	0	0	0	0	2	0	0	2
SO	21	0	0	1	0	0	0	0	0	1
SW	01	0	0	0	0	0	0	0	1	1
SW	03	0	0	1	0	1	3	0	0	5
SW	05	0	7	6	0	0	8	0	1	22
SW	15	0	0	1	0	0	0	0	0	1

DISTRICT OFFICE		11-18	21-29	SDR TOTALS BY FAA ATA SYSTEM CHAPTER						
				30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
SW	99	0	0	0	0	0	0	2	0	2
WP	07	0	0	0	0	0	1	0	0	1
WP	09	0	0	0	0	0	0	1	0	1
WP	11	0	0	0	0	1	0	0	0	1
WP	23	0	1	0	0	0	0	2	0	3
WP	25	0	1	0	0	0	0	0	0	1
TOTALS		0	33	34	0	12	24	27	22	152

(End of GENERAL AVIATION SUMMARY INDEX by DISTRICT OFFICE Report)

GENERAL AVIATION SUMMARY INDEX by MANUFACTURER MAKE and MODEL**3/1/98 To 3/7/98 ISSUE: 98-10 ZAC-327**

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
AMTRDF	KITFOX	0	0	0	0	0	0	1	0	1
AYRES	S2*	0	0	0	0	2	0	0	0	2
BBAVIA	8GCBC	0	1	0	0	1	0	0	0	2
BEECH	200BEECH	0	0	0	0	1	0	0	0	1
BEECH	3NM	0	1	0	0	0	0	0	0	1
BEECH	9555	0	0	1	0	0	0	0	0	1
BEECH	A36	0	0	0	0	0	0	0	1	1
BEECH	B200	0	0	1	0	0	0	0	0	1
BEECH	C35BEECH	0	0	0	0	0	0	1	0	1
BEECH	C90	0	1	0	0	0	0	0	0	1
BEECH	C99	0	1	0	0	0	0	0	0	1
BEECH	D18S	0	1	0	0	0	0	0	0	1
BEECH	E95	0	0	1	0	0	0	0	0	1
BELL	206B	0	0	0	0	0	0	2	0	2
BELL	206B	0	0	0	0	0	1	0	0	1
BELL	206B3	0	1	0	0	0	1	0	0	2
BELL	206L	0	0	0	0	0	0	1	0	1
BELL	206L1	0	0	0	0	0	1	0	0	1
BELL	206L3	0	0	1	0	0	0	0	0	1
BELL	206L4	0	0	0	0	0	0	1	0	1
BELL	212	0	0	0	0	1	0	0	0	1
BELL	212	0	0	0	0	0	2	0	0	2
BELL	214B	0	0	0	0	1	0	0	0	1
BELL	222U	0	0	0	0	0	2	0	0	2
BELL	230	0	2	1	0	0	0	0	0	3
BELL	412	0	0	0	0	1	2	0	0	3
BOLKMS	BK117A1	0	0	1	0	0	1	0	0	2

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
BOLKMS	BK117A3	0	2	1	0	0	1	0	1	5
BOLKMS	BK117A4	0	1	1	0	0	0	0	0	2
BOLKMS	BK117B1	0	1	0	0	0	1	0	0	2
BOLKMS	BK117C1	0	1	2	0	0	5	0	0	8
BOLKMS	BO105C	0	1	0	0	0	1	0	0	2
BOLKMS	BO105CBS	0	0	0	0	0	3	0	0	3
CESSNA	150H	0	0	0	0	0	0	1	0	1
CESSNA	150M	0	1	0	0	0	0	0	0	1
CESSNA	150M	0	1	0	0	0	0	0	0	1
CESSNA	152	0	0	0	0	1	0	0	0	1
CESSNA	172C	0	1	0	0	0	0	0	0	1
CESSNA	172M	0	0	1	0	0	0	0	0	1
CESSNA	172N	0	1	0	0	0	0	0	0	1
CESSNA	172R	0	0	0	0	0	1	0	0	1
CESSNA	177RG	0	0	1	0	0	0	0	0	1
CESSNA	182	0	0	4	0	0	0	0	0	4
CESSNA	182J	0	0	0	0	0	1	0	0	1
CESSNA	182P	0	0	0	0	0	1	0	0	1
CESSNA	182S	0	1	0	0	0	0	0	0	1
CESSNA	207A	0	0	0	0	0	0	0	2	2
CESSNA	208	0	0	0	0	0	0	1	0	1
CESSNA	310I	0	0	0	0	0	0	0	1	1
CESSNA	337G	0	0	1	0	0	0	0	0	1
CESSNA	337H	0	0	0	0	0	0	0	1	1
CESSNA	340A	0	0	1	0	1	0	0	1	3
CESSNA	401	0	0	1	0	0	0	0	1	2
CESSNA	404CESSNA	0	1	0	0	0	0	0	1	2

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
CESSNA	414A	0	0	0	0	0	0	0	1	1
CESSNA	421C	0	0	1	0	0	0	0	0	1
CESSNA	441	0	1	0	0	0	0	0	0	1
CESSNA	500CESSNA	0	0	0	0	0	0	1	0	1
CESSNA	500CESSNA	0	0	1	0	0	0	0	0	1
CESSNA	525	0	0	1	0	0	0	0	0	1
CESSNA	550	0	0	1	0	0	0	1	0	2
CESSNA	A185F	0	0	0	0	0	0	1	0	1
CESSNA	T210M	0	0	0	0	0	0	0	1	1
CNDAIR	CL6012A12	0	1	0	0	0	0	0	0	1
DHAV	DHC2MK1	0	0	1	0	0	0	0	0	1
DHAV	DHC2MK2	0	0	0	0	1	0	0	0	1
DHAV	DHC2MK3	0	1	0	0	0	0	1	0	2
DHAV	DHC3	0	1	0	0	0	0	0	1	2
DHAV	DHC6300	0	0	1	0	0	0	0	0	1
DHAV	DHC6300	0	0	1	0	0	0	1	0	2
DOUG	600N	0	0	0	0	0	0	1	0	1
GULSTM	560	0	1	3	0	1	0	0	0	5
GULSTM	681	0	0	0	0	0	0	1	0	1
GULSTM	AA5	0	1	0	0	0	0	0	0	1
HUGHES	369E	0	0	0	0	0	0	2	0	2
MAULE	MXT7180	0	0	0	0	0	0	1	0	1
MOONEY	M20C	0	0	0	0	0	0	0	2	2
MOONEY	M20F	0	1	0	0	0	0	0	0	1
PIPER	PA23250	0	0	0	0	0	0	1	0	1
PIPER	PA24250	0	1	1	0	0	0	0	0	2
PIPER	PA28161	0	0	0	0	1	0	0	0	1

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
PIPER	PA28161	0	0	0	0	0	0	1	0	1
PIPER	PA28180	0	0	0	0	0	0	0	1	1
PIPER	PA28181	0	1	0	0	0	0	0	0	1
PIPER	PA28R200	0	0	1	0	0	0	0	0	1
PIPER	PA30	0	1	1	0	0	0	1	0	3
PIPER	PA31	0	0	0	0	0	0	0	1	1
PIPER	PA31310	0	0	0	0	0	0	0	2	2
PIPER	PA31350	0	0	0	0	0	0	0	2	2
PIPER	PA31P	0	0	1	0	0	0	0	0	1
PIPER	PA31T	0	0	0	0	0	0	1	0	1
PIPER	PA34200	0	0	0	0	0	0	0	1	1
PIPER	PA44180	0	0	1	0	0	0	1	0	2
PIPER	PA46350P	0	0	0	0	0	0	1	0	1
PIPER	PA60601P	0	0	0	0	0	0	0	1	1
SKRISKY	S61N	0	1	0	0	0	0	1	0	2
SKRISKY	S76	0	1	0	0	0	0	0	0	1
SKRISKY	S76A	0	0	0	0	0	0	1	0	1
SLNGAV	T67M260	0	1	0	0	0	0	0	0	1
SNIAS	AS350B1	0	0	0	0	0	0	1	0	1
TOTALS		0	33	34	0	12	24	27	22	152

(End of AIR CARRIER SUMMARY INDEX by OPERATOR Report)

JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

PREFACE

The Joint Aircraft System/Component (JASC) Code Table is a modified version of the Air Transport Association of America (ATA), Specification 100 code. It was developed by the Federal Aviation Administration's (FAA), Aviation Data Systems Branch (AFS-620). Technical support was provided by the Galaxy Scientific Corporation, and various representatives of the air carrier and general aviation community.

Over the past four years, the JASC format of the ATA Spec 100 code has gained widespread industry acceptance. In a harmonized effort, the FAA's counterparts in Australia and Canada have adopted the JASC code with only a few exceptions. Some Canadian aircraft manufacturers have also recently adopted this new standard.

This code table is constructed by using the new JASC four (4) digit code, along with an abbreviated code title. The abbreviated titles have been modified in some cases to clarify the intended use of the accompanying code. This table can be used as a quick reference chart, to assist in the coding and review of aircraft structures or systems data (i.e., Service Difficulty Report (SDR), Accident/Incident Report).

The current coding scheme used in the JASC code was introduced in May 1991, for the technical classification of SDR's. Its predecessor, the FAA aircraft system/component code, was a similar but more complex eight-digit code which was developed over 25 years ago. It was constructed around the computer technology of that period. It consisted of a four digit numerical code plus a four alpha character code to make data retrieval possible. Since that time, computer technology has advanced many fold. Reducing the code from eight to four characters simplifies coding, and in some cases, makes JASC coding match the ATA Specification 100 first three digits, which are used to identify aircraft systems. The ATA code does not reference the fourth digit, so it is free to be used for identifying components.

The JASC code aircraft structural section has increased due to problems inherent with aging aircraft. As an example, FAA code 5301 SXBD was expanded to 20 items due to the high rate of reporting in this area (8021 structural reports were received in 1989). In some instances, there was very little reporting and codes were combined into other systems if the safety impact was not significant. The overall reduction in codes has been from 568 FAA codes to 488 JASC codes, with the significant increase being in the structural area as stated earlier.

The JASC code divides the engine section into two major code groups to separate the turbine and reciprocating engines. The codes for the turbine engines are in JASC Chapter 72, Turbine/Turboprop Engine. The codes for the reciprocating engines are now exclusively found in JASC Chapter 85, Reciprocating Engine.

The other major deviation from ATA Spec 100 is in ATA section 2730, specifically involves the stall warning system. Early technology (primarily on smaller aircraft) directly linked the sensing of flight attitude to one of the components which furnished the means of manually controlling the flight attitude characteristics (elevator). Today, most large transport category aircraft utilize electronic units to sense the change in the environmental condition called stall, and use the data to influence navigation. ATA section 3410, Flight Environment Data, includes high speed warning in its code definition. Stall warning (low speed) is the reciprocal term of high speed warning, so its filing under the same code appears more logical. Thus, with the JASC code it was decided to move the stall warning system to Chapter 34 under the separate code JASC code 3418, Stall Warning System.

The FAA is continuing to pursue worldwide involvement from operators and manufacturers in addressing the need for international standardization of aircraft system/component codes. The ultimate goal is to develop a universal aircraft/component numbering standard which can be used in the manufacturer's maintenance manual, wiring diagram manual, system manuals and illustrated parts catalog. This harmonized standard must be a usable standard for the aircraft manufacturers, air carrier operators and the general aviation community.

We welcome comments and feedback regarding the possible forming of working groups to achieve this long range consideration of possibly harmonizing the ATA Specification 100 code and the JASC code. Comments may be directed to the FAA, Aviation Data System Branch, AFS-620, P.O. Box 25082, Oklahoma City, OK 73125.

JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

JASC/ TITLE

11 PLACARDS AND MARKINGS

1100 PLACARDS AND MARKINGS

12 SERVICING

1210 FUEL SERVICING
1220 OIL SERVICING
1230 HYDRAULIC FLUID SERVICING
1240 COOLANT SERVICING

18 HELICOPTER VIBRATION

1800 HELICOPTER VIB/NOISE ANALYSIS
1810 HELICOPTER VIBRATION ANALYSIS
1820 HELICOPTER NOISE ANALYSIS

21 AIR CONDITIONING

2100 AIR CONDITIONING SYSTEM
2110 CABIN COMPRESSOR SYSTEM
2120 AIR DISTRIBUTION SYSTEM
2121 AIR DISTRIBUTION FAN
2130 CABIN PRESSURE CONTROL SYSTEM
2131 CABIN PRESSURE CONTROLLER
2132 CABIN PRESSURE INDICATOR
2133 PRESSURE REGUL/OUTFLOW VALVE
2134 CABIN PRESSURE SENSOR
2140 HEATING SYSTEM
2150 CABIN COOLING SYSTEM
2160 CABIN TEMPERATURE CONTROL SYSTEM
2161 CABIN TEMPERATURE CONTROLLER
2162 CABIN TEMPERATURE INDICATOR
2163 CABIN TEMPERATURE SENSOR
2170 HUMIDITY CONTROL SYSTEM

22 AUTO FLIGHT

2200 AUTO FLIGHT SYSTEM
2210 AUTOPILOT SYSTEM
2211 AUTOPILOT COMPUTER
2212 ALTITUDE CONTROLLER
2213 FLIGHT CONTROLLER
2214 AUTOPILOT TRIM INDICATOR
2215 AUTOPILOT MAIN SERVO
2216 AUTOPILOT TRIM SERVO
2220 SPEED-ATTITUDE CORRECT. SYSTEM
2230 AUTO THROTTLE SYSTEM
2250 AERODYNAMIC LOAD ALLEVIATING

23 COMMUNICATIONS

2300 COMMUNICATIONS SYSTEM
2310 HF COMMUNICATION SYSTEM
2311 UHF COMMUNICATION SYSTEM
2312 VHF COMMUNICATION SYSTEM
2320 DATA TRANSMISSION AUTO CALL
2330 ENTERTAINMENT SYSTEM
2340 INTERPHONE & PA SYSTEM
2350 AUDIO INTEGRATING SYSTEM
2360 STATIC DISCHARGE SYSTEM
2370 AUDIO/VIDEO MONITORING

24 ELECTRICAL POWER

2400 ELECTRICAL POWER SYSTEM
2410 ALTERNATOR-GENERATOR DRIVE
2420 AC GENERATION SYSTEM
2421 AC GENERATOR-ALTERNATOR
2422 AC INVERTER
2423 PHASE ADAPTER

24 ELECTRICAL POWER CONT'D

2424 AC REGULATOR
2425 AC INDICATING SYSTEM
2430 DC GENERATING SYSTEM
2431 BATTERY OVERHEAT WARN. SYSTEM
2432 BATTERY/CHARGER SYSTEM
2433 DC RECTIFIER-CONVERTER
2434 DC GENERATOR-ALTERNATOR
2435 STARTER-GENERATOR
2436 DC REGULATOR
2437 DC INDICATING SYSTEM
2440 EXTERNAL POWER SYSTEM
2450 AC POWER DISTRIBUTION SYSTEM
2460 DC POWER/DISTRIBUTION SYSTEM

25 EQUIPMENT/FURNISHINGS

2500 CABIN EQUIPMENT/FURNISHINGS
2510 FLIGHT COMPARTMENT EQUIPMENT
2520 PASSENGER COMPARTMENT EQUIPMENT
2530 BUFFET/GALLEYS
2540 LAVATORIES
2550 CARGO COMPARTMENTS
2551 AGRICULTURAL SPRAY SYSTEM
2560 EMERGENCY EQUIPMENT
2561 LIFE JACKET
2562 EMERGENCY LOCATOR BEACON
2563 PARACHUTE
2564 LIFE RAFT
2565 ESCAPE SLIDE
2570 ACCESSORY COMPARTMENT
2571 BATTERY BOX STRUCTURE
2572 ELECTRONIC SHELF SECTION

26 FIRE PROTECTION

2600 FIRE PROTECTION SYSTEM
2610 DETECTION SYSTEM
2611 SMOKE DETECTION
2612 FIRE DETECTION
2613 OVERHEAT DETECTION
2620 EXTINGUISHING SYSTEM
2621 FIRE BOTTLE, FIXED
2622 FIRE BOTTLE, PORTABLE

27 FLIGHT CONTROLS

2700 FLIGHT CONTROL SYSTEM
2701 CONTROL COLUMN SECTION
2710 AILERON CONTROL SYSTEM
2711 AILERON TAB CONTROL SYSTEM
2720 RUDDER CONTROL SYSTEM
2721 RUDDER TAB CONTROL SYSTEM
2722 RUDDER ACTUATOR
2730 ELEVATOR CONTROL SYSTEM
2731 ELEVATOR TAB CONTROL SYSTEM
2740 STABILIZER CONTROL SYSTEM
2741 STABILIZER POSITION INDICATING
2742 STABILIZER ACTUATOR
2750 TE FLAP CONTROL SYSTEM
2751 TE FLAP POSITION IND. SYSTEM
2752 TE FLAP ACTUATOR
2760 DRAG CONTROL SYSTEM
2761 DRAG CONTROL ACTUATOR
2770 GUST LOCK/DAMPER SYSTEM
2780 LE FLAP CONTROL SYSTEM
2781 LE FLAP POSITION IND. SYSTEM
2782 LE FLAP ACTUATOR

28 FUEL

2800 AIRCRAFT FUEL SYSTEM
2810 FUEL STORAGE
2820 ACFT FUEL DISTRIB. SYSTEM
2821 ACFT FUEL FILTER/STRAINER
2822 FUEL BOOST PUMP
2823 FUEL SELECTOR/SHUTOFF VALVE
2824 FUEL TRANSFER VALVE
2830 FUEL DUMP SYSTEM
2840 ACFT FUEL INDICATING
2841 FUEL QUANTITY INDICATOR
2842 FUEL QUANTITY SENSOR
2843 FUEL TEMPERATURE INDICATING
2844 FUEL PRESSURE INDICATOR

29 HYDRAULIC POWER

2900 HYDRAULIC POWER SYSTEM
2910 HYDRAULIC, MAIN SYSTEM
2911 HYDRAULIC POWER-ACCUMULATOR-MAIN
2912 HYDRAULIC FILTER-MAIN SYSTEM
2913 HYDRAULIC PUMP. ELECT-ENG.-MAIN
2914 HYDRAULIC HANDPUMP-MAIN
2915 HYDRAULIC PRESSURE RELIEF VLV-MAIN
2916 HYDRAULIC RESERVOIR-MAIN
2917 HYDRAULIC PRESSURE REGULATOR-MAIN
2920 HYDRAULIC, AUXILIARY SYSTEM
2921 HYDRAULIC ACCUMULATOR-AUXILIARY
2922 HYDRAULIC FILTER-AUXILIARY
2923 HYDRAULIC PUMP-AUXILIARY
2925 HYDRAULIC PRESSURE RELIEF-AUXILIARY
2926 HYDRAULIC RESERVOIR-AUXILIARY
2927 HYDRAULIC PRESSURE REGULATOR-AUX.
2930 HYDRAULIC SYSTEM INDICATING
2931 HYDRAULIC PRESSURE INDICATOR
2932 HYDRAULIC PRESSURE SENSOR
2933 HYDRAULIC QUANTITY INDICATOR
2934 HYDRAULIC QUANTITY SENSOR

30 ICE AND RAIN PROTECTION

3000 ICE/RAIN PROTECTION SYSTEM
3010 AIRFOIL ANTI/DE-ICE SYSTEM
3020 AIR INTAKE ANTI/DE-ICE SYSTEM
3030 PITOT/STATIC ANTI-ICE SYSTEM
3040 WINDSHIELD/DOOR RAIN/ICE REMOVAL
3050 ANTENNA/RADOME ANTI-ICE/DE-ICE SYSTEM
3060 PROP/ROTOR ANTI-ICE/DE-ICE SYSTEM
3070 WATER LINE ANTI-ICE SYSTEM
3080 ICE DETECTION

31 INSTRUMENTS

3100 INDICATING/RECORDING SYSTEM
3110 INSTRUMENT PANEL
3120 INDEPENDENT INSTRUMENTS (CLOCK, ETC.)
3130 DATA RECORDERS (FLT/MAINT)
3140 CENTRAL COMPUTERS (EICAS)
3150 CENTRAL WARNING
3160 CENTRAL DISPLAY
3170 AUTOMATIC DATA

32 LANDING GEAR

3200 LANDING GEAR SYSTEM
3201 LANDING GEAR/WHEEL FAIRING
3210 MAIN LANDING GEAR
3211 MAIN LANDING GEAR ATTACH SECTION
3212 EMERGENCY FLOTATION SECTION
3213 MAIN LANDING GEAR STRUT/AXLE/TRUCK
3220 NOSE/TAIL LANDING GEAR
3221 NOSE/TAIL LANDING GEAR ATTACH SECTION
3222 NOSE/TAIL LANDING GEAR STRUT/AXLE
3230 LANDING GEAR RETRACT/EXT. SYSTEM
3231 LANDING GEAR DOOR RETRACT SECTION
3232 LANDING GEAR DOOR ACTUATOR
3233 LANDING GEAR ACTUATOR
3234 LANDING GEAR SELECTOR
3240 LANDING GEAR BRAKE SYSTEM
3241 BRAKE ANTI-SKID SECTION
3242 BRAKE
3243 MASTER CYL/BRAKE VALVE
3244 TIRE
3245 TIRE TUBE
3246 WHEEL/SKI/FLOAT
3250 LANDING GEAR STEERING SYSTEM
3251 STEERING UNIT
3252 SHIMMY DAMPER
3260 LANDING GEAR POSITION & WARNING
3270 AUXILIARY GEAR (TAIL SKID)

33 LIGHTS

3300 LIGHTING SYSTEM
3310 FLIGHT COMPARTMENT LIGHTING
3320 PASSENGER COMPARTMENT LIGHTING
3330 CARGO COMPARTMENT LIGHTING
3340 EXTERIOR LIGHTING
3350 EMERGENCY LIGHTING

34 NAVIGATION

3400 NAVIGATION SYSTEM
3410 FLIGHT ENVIRONMENT DATA
3411 PITOT/STATIC SYSTEM
3412 OUTSIDE AIR TEMP. IND./SENSOR
3413 RATE OF CLIMB INDICATOR
3414 AIRSPEED/MACH INDICATING
3415 HIGH SPEED WARNING
3416 ALTIMETER, BAROMETRIC/ENCODER

34 NAVIGATION CONT'D

3417 AIR DATA COMPUTER
3418 STALL WARNING SYSTEM
3420 ATTITUDE AND DIRECTION DATA SYSTEM
3421 ATTITUDE GYRO & IND. SYSTEM
3422 DIRECTIONAL GYRO & IND. SYSTEM
3423 MAGNETIC COMPASS
3424 TURN & BANK/RATE OF TURN INDICATOR
3425 INTEGRATED FLT. DIRECTOR SYSTEM
3430 LANDING & TAXI AIDS
3431 LOCALIZER/VOR SYSTEM
3432 GLIDE SLOPE SYSTEM
3433 MICROWAVE LANDING SYSTEM
3434 MARKER BEACON SYSTEM
3435 HEADS UP DISPLAY SYSTEM
3436 WIND SHEAR DETECTION SYSTEM
3440 INDEPENDENT POS. DETERMINING SYSTEM
3441 INERTIAL GUIDANCE SYSTEM
3442 WEATHER RADAR SYSTEM
3443 DOPPLER SYSTEM
3444 GROUND PROXIMITY SYSTEM
3445 AIR COLLISION AVOIDANCE SYSTEM (TCAS)
3446 NON RADAR WEATHER SYSTEM
3450 DEPENDENT POSITION DETERMINING SYSTEM
3451 DME/TACAN SYSTEM
3452 ATC TRANSPONDER SYSTEM
3453 LORAN SYSTEM
3454 VOR SYSTEM
3455 ADF SYSTEM
3456 OMEGA NAVIGATION SYSTEM
3457 GLOBAL POSITIONING SYSTEM
3460 FLIGHT MANAGE. COMPUTING SYSTEM

35 OXYGEN

3500 OXYGEN SYSTEM
3510 CREW OXYGEN SYSTEM
3520 PASSENGER OXYGEN SYSTEM
3530 PORTABLE OXYGEN SYSTEM

36 PNEUMATIC

3600 PNEUMATIC SYSTEM
3610 PNEUMATIC DISTRIBUTION SYSTEM
3620 PNEUMATIC INDICATING SYSTEM

37 VACUUM

3700 VACUUM SYSTEM
3710 VACUUM DISTRIBUTION SYSTEM
3720 VACUUM INDICATING SYSTEM

38 WATER/WASTE

3800 WATER & WASTE SYSTEM
3810 POTABLE WATER SYSTEM
3820 WASH WATER SYSTEM
3830 WASTE DISPOSAL SYSTEM
3840 AIR SUPPLY (WATER PRESS. SYSTEM)

45 CENTRAL MAINT. SYSTEM

4500 CENTRAL MAINT. COMPUTER

49 AIRBORNE AUXILIARY POWER

4900 AIRBORNE APU SYSTEM
4910 APU COWLING/CONTAINMENT
4920 APU CORE ENGINE
4930 APU ENGINE FUEL & CONTROL
4940 APU START/IGNITION SYSTEM
4950 APU BLEED AIR SYSTEM
4960 APU CONTROLS
4970 APU INDICATING SYSTEM
4980 APU EXHAUST SYSTEM
4990 APU OIL SYSTEM

51 STANDARD PRACTICES/STRUCTURES

5100 STANDARD PRACTICES/STRUCTURES
5101 AIRCRAFT STRUCTURES
5102 BALLOON REPORTS

52 DOORS

5200 DOORS
5210 PASSENGER/CREW DOORS
5220 EMERGENCY EXIT
5230 CARGO/BAGGAGE DOORS
5240 SERVICE DOORS
5241 GALLEY DOORS
5242 E/E COMPARTMENT DOORS
5243 HYDRAULIC COMPARTMENT DOORS
5244 ACCESSORY COMPARTMENT DOORS
5245 AIR CONDITIONING COMPART. DOORS
5246 FLUID SERVICE DOORS

5247 APU DOORS
5248 TAIL CONE DOORS
5250 FIXED INNER DOORS
5260 ENTRANCE STAIRS
5270 DOOR WARNING SYSTEM
5280 LANDING GEAR DOORS

53 FUSELAGE

5300 FUSELAGE STRUCTURE (GENERAL)
5301 AERIAL TOW EQUIPMENT
5302 ROTORCRAFT TAIL BOOM
5310 FUSELAGE MAIN STRUCTURE
5311 FUSELAGE MAIN FRAME
5312 FUSELAGE MAIN BULKHEAD
5313 FUSELAGE MAIN LONGERON/STRINGER
5314 FUSELAGE MAIN KEEL
5315 FUSELAGE MAIN FLOOR BEAM
5320 FUSELAGE MISCELLANEOUS STRUCTURE
5321 FUSELAGE FLOOR PANEL
5322 FUSELAGE INTERNAL MOUNT STRUCTURE
5323 FUSELAGE INTERNAL STAIRS
5324 FUSELAGE FIXED PARTITIONS
5330 FUSELAGE MAIN PLATE/SKIN
5340 FUSELAGE MAIN ATTACH FITTINGS
5341 WING ATTACH FITTINGS (ON FUSELAGE)
5342 STABILIZER ATTACH FITTINGS
5343 LANDING GEAR ATTACH FITTINGS
5344 FUSELAGE DOOR HINGES
5345 FUSELAGE EQUIPMENT ATTACH FITTINGS
5346 POWERPLANT ATTACH FITTINGS
5347 SEAT/CARGO ATTACH FITTINGS
5350 FUSELAGE AERODYNAMIC FAIRINGS

54 NACELLES/PYLONS

5400 NACELLE/PYLON STRUCTURE
5410 MAIN FRAME (ON NACELLE/PYLON)
5411 FRAME/SPAR/RIB(NACELLE/PYLON)
5412 BULKHEAD/FIREWALL (NAC/PYLON)
5413 LONGERON/STRINGER (NAC/PYLON)
5414 PLATE SKIN (NAC/PYLONS)
5415 ATTACH FITTINGS (NAC/PYLON)

55 STABILIZERS

5500 EMPENNAGE STRUCTURE
5510 HORIZONTAL STABILIZER STRUCTURE
5511 HORIZONTAL STABILIZER SPAR/RIB
5512 HORIZONTAL STABILIZER PLATE/SKIN
5513 HORIZONTAL STABILIZER TAB STRUCTURE
5520 ELEVATOR STRUCTURE

55 STABILIZERS CONT'D

5521 ELEVATOR SPAR/RIB STRUCTURE
5522 ELEVATOR PLATES/SKIN STRUCTURE
5523 ELEVATOR TAB STRUCTURE
5530 VERTICAL STABILIZER STRUCTURE
5531 VERTICAL STABILIZER SPAR/RIB STRUCTURE
5532 VERTICAL STABILIZER PLATES/SKIN
5533 VENTRAL STRUCTURE (ON VERT. STAB)
5540 RUDDER STRUCTURE
5541 RUDDER SPAR/RIB STRUCTURE
5542 RUDDER PLATE/SKIN STRUCTURE
5543 RUDDER TAB STRUCTURE
5550 EMPENNAGE FLT. CONT. ATTACH FITTING
5551 HORIZONTAL STABILIZER ATTACH FITTING
5552 ELEVATOR/TAB ATTACH FITTINGS
5553 VERT. STAB. ATTACH FITTINGS
5554 RUDDER/TAB ATTACH FITTINGS

56 WINDOWS

5600 WINDOW/WINDSHIELD SYSTEM
5610 FLIGHT COMPARTMENT WINDOWS
5620 PASSENGER COMPARTMENT WINDOWS
5630 DOOR WINDOWS
5640 INSPECTION WINDOWS

57 WINGS

5700 WING STRUCTURE
5710 WING MAIN FRAME STRUCTURE
5711 WING SPAR STRUCTURE
5712 WING RIB STRUCTURE
5713 WING LONGERON/STRINGER
5714 WING CENTER BOX
5720 WING MISCELLANEOUS STRUCTURE
5730 WING PLATES/SKINS
5740 WING ATTACH FITTINGS
5741 WING, FUSELAGE ATTACH FITTINGS
5742 WING, NAC/PYLON ATTACH FITTINGS
5743 WING, LANDING GEAR ATTACH FITTINGS
5744 CONTROL SURFACE ATTACH FITTINGS
5750 WING CONTROL SURFACE STRUCTURE
5751 AILERON STRUCTURE
5752 AILERON TAB STRUCTURE
5753 TE FLAP STRUCTURE
5754 LEADING EDGE DEVICE STRUCTURE
5755 SPOILER STRUCTURE

61 PROPELLERS/PROPULSORS

6100 PROPELLER SYSTEM
6110 PROPELLER ASSEMBLY
6111 PROPELLER BLADE SECTION
6112 PROPELLER DE-ICE BOOT SECTION
6113 PROPELLER SPINNER SECTION
6114 PROPELLER HUB SECTION
6120 PROPELLER CONTROL SYSTEM
6121 PROPELLER SYNCHRONIZER SECTION
6122 PROPELLER GOVERNOR
6123 PROPELLER FEATHERING/REVERSING
6130 PROPELLER BRAKING
6140 PROPELLER INDICATING SYSTEM

62 MAIN ROTOR

6200 MAIN ROTOR SYSTEM
6210 MAIN ROTOR BLADES
6220 MAIN ROTOR HEAD
6230 MAIN ROTOR MAST/SWASHPLATE
6240 MAIN ROTOR INDICATING SYSTEM

63 MAIN ROTOR DRIVE

6300 MAIN ROTOR DRIVE SYSTEM
6310 ENGINE/TRANSMISSION COUPLING
6320 MAIN ROTOR GEARBOX
6321 MAIN ROTOR BRAKE
6322 ROTORCRAFT COOLING FAN SYSTEM
6330 MAIN ROTOR TRANSMISSION MOUNT
6340 ROTOR DRIVE INDICATING SYSTEM

64 TAIL ROTOR

6400 TAIL ROTOR SYSTEM
6410 TAIL ROTOR BLADE
6420 TAIL ROTOR HEAD
6440 TAIL ROTOR INDICATING SYSTEM

65 TAIL ROTOR DRIVE

6500 TAIL ROTOR DRIVE SYSTEM
6510 TAIL ROTOR DRIVE SHAFT
6520 TAIL ROTOR GEARBOX
6540 TAIL ROTOR DRIVE INDICATING SYSTEM

67 ROTORS FLIGHT CONTROL

6700 ROTORCRAFT FLIGHT CONTROL
6710 MAIN ROTOR CONTROL
6711 TILT ROTOR FLIGHT CONTROL
6720 TAIL ROTOR CONTROL SYSTEM
6730 ROTORCRAFT SERVO SYSTEM

71 POWERPLANT

7100 POWERPLANT SYSTEM
7110 ENGINE COWLING SYSTEM
7111 COWL FLAP SYSTEM
7112 ENGINE AIR BAFFLE SECTION
7120 ENGINE MOUNT SECTION
7130 ENGINE FIRESEALS
7160 ENGINE AIR INTAKE SYSTEM
7170 ENGINE DRAINS

72 TURBINE/TURBOPROP ENGINE

7200 ENGINE (TURBINE/TURBOPROP)
7210 TURBINE ENGINE REDUCTION GEAR
7220 TURBINE ENGINE AIR INLET SECTION
7230 TURBINE ENGINE COMPRESSOR SECTION
7240 TURBINE ENGINE COMBUSTION SECTION
7250 TURBINE SECTION
7260 TURBINE ENGINE ACCESSORY DRIVE
7261 TURBINE ENGINE OIL SYSTEM
7270 TURBINE ENGINE BYPASS SECTION

73 ENGINE FUEL & CONTROL

7300 ENGINE FUEL & CONTROL
7310 ENGINE FUEL DISTRIBUTION
7311 ENGINE FUEL-OIL COOLER
7312 FUEL HEATER
7313 FUEL INJECTOR NOZZLE
7314 ENGINE FUEL PUMP
7320 FUEL CONTROLLING SYSTEM
7321 FUEL CONTROL/ELECTRONIC
7322 FUEL CONTROL/CARBURETOR
7323 TURBINE GOVERNOR
7324 FUEL DIVIDER
7330 ENGINE FUEL INDICATING SYSTEM
7331 FUEL FLOW INDICATING
7332 FUEL PRESSURE INDICATING
7333 FUEL FLOW SENSOR
7334 FUEL PRESSURE SENSOR

74 IGNITION

7400 IGNITION SYSTEM
7410 IGNITION POWER SUPPLY
7411 LOW TENSION COIL
7412 EXCITER
7413 INDUCTION VIBRATOR
7414 MAGNETO/DISTRIBUTOR
7420 IGNITION HARNESS (DISTRIBUTION)
7421 SPARK PLUG/IGNITER
7430 IGNITION SWITCHING

75 AIR

7500 ENGINE BLEED AIR SYSTEM
7510 ENGINE ANTI-ICING SYSTEM
7520 ENGINE COOLING SYSTEM
7530 COMPRESSOR BLEED CONTROL
7531 COMPRESSOR BLEED GOVERNOR
7532 COMPRESSOR BLEED VALVE
7540 BLEED AIR INDICATING SYSTEM

76 ENGINE CONTROLS

7600 ENGINE CONTROLS
7601 ENGINE SYNCHRONIZING
7602 MIXTURE CONTROL
7603 POWER LEVER
7620 ENGINE EMERGENCY SHUTDOWN SYSTEM

77 ENGINE INDICATING

7700 ENGINE INDICATING SYSTEM
7710 POWER INDICATING SYSTEM
7711 ENGINE PRESSURE RATIO (EPR)
7712 ENGINE BMEP/TORQUE INDICATING
7713 MANIFOLD PRESSURE (MP) INDICATING
7714 ENGINE RPM INDICATING SYSTEM
7720 ENGINE TEMP. INDICATING SYSTEM
7721 CYLINDER HEAD TEMP (CHT) INDICATING
7722 ENG. EGT/TIT INDICATING SYSTEM
7730 ENGINE IGNITION ANALYZER SYSTEM
7731 ENGINE IGNITION ANALYZER
7732 ENGINE VIBRATION ANALYZER
7740 ENGINE INTEGRATED INSTRUMENT SYSTEM

78 ENGINE EXHAUST

7800 ENGINE EXHAUST SYSTEM
7810 ENGINE COLLECTOR/TAILOPIPE/NOZZLE
7820 ENGINE NOISE SUPPRESSOR
7830 THRUST REVERSER

79 ENGINE OIL

7900 ENGINE OIL SYSTEM (AIRFRAME)
7910 ENGINE OIL STORAGE (AIRFRAME)
7920 ENGINE OIL DISTRIBUTION (AIRFRAME)
7921 ENGINE OIL COOLER
7922 ENGINE OIL TEMP. REGULATOR
7923 OIL SHUTOFF VALVE
7930 ENGINE OIL INDICATING SYSTEM
7931 ENGINE OIL PRESSURE
7932 ENGINE OIL QUANTITY
7933 ENGINE OIL TEMPERATURE

80 STARTING

8000 ENGINE STARTING SYSTEM
8010 ENGINE CRANKING
8011 ENGINE STARTER
8012 ENGINE START VALVES/CONTROLS

81 TURBOCHARGING

8100 EXHAUST TURBINE SYSTEM (RECIP)
8110 POWER RECOVERY TURBINE (RECIP)
8120 EXHAUST TURBOCHARGER

82 WATER INJECTION

8200 WATER INJECTION SYSTEM

83 ACCESSORY GEARBOXES

8300 ACCESSORY GEARBOXES

85 RECIPROCATING ENGINE

8500 ENGINE (RECIPROCATING)
8510 RECIPROCATING ENGINE FRONT SECTION
8520 RECIPROCATING ENGINE POWER SECTION

8530 RECIPROCATING ENGINE CYLINDER SECTION
8540 RECIPROCATING ENGINE REAR SECTION
8550 RECIPROCATING ENGINE OIL SYSTEM

MECHANICS CREED

UPON MY HONOR I swear that I shall hold in sacred trust the rights and privileges conferred upon me as a certified mechanic. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I shall never knowingly subject others to risks which I would not be willing to assume for myself, or for those dear to me.

IN DISCHARGING this trust, I pledge myself never to undertake work or approve work which I feel to be beyond the limits of my knowledge; nor shall I allow any non-certificated superior to persuade me to approve aircraft or equipment as airworthy against my better judgment; nor shall I permit my judgment to be influenced by money or other personal gain; nor shall I pass as airworthy aircraft or equipment about which I am in doubt, either as a result of direct inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.

I REALIZE the grave responsibility which is mine as a certified airman, to exercise my judgment on the airworthiness of aircraft and equipment. I, therefore, pledge unyielding adherence to these precepts for the advancement of aviation and for the dignity of my vocation.